

THE AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of Man.—*Washington.*

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FATTENING POULTRY.

As Thanksgiving, Christmas, and New Years, are fast approaching, when the demand for poultry is at its greatest height, and the quality of it is more curiously considered than at other seasons of the year, in order to obtain something choice for the festive days, we have thought a few words upon the fattening and preparation of it for market might now very appropriately be given, and perhaps interest our readers more than at another time.

The fowls being in good condition a fortnight to one month previous to the time they are wanted for killing, shut them up in a roomy, dry, well-ventilated, and warm building, with either a ground, stone, or plank floor, as is most convenient. This should be cleaned every day, and straw several inches thick spread over a part of it, especially where geese and ducks are shut up, for the purpose of giving them good beds to sit in. As often as the litter gets soiled, remove it, and put clean straw in its place. A constant supply of food and water should now be kept before them, allowing the fowls to eat and drink as often and as much as they please. Gravel is indispensable for their health, and charcoal, together with a little lime or ground bones, is beneficial. Fowls fat better when they can get at their food as often

as they please, and are not so apt to gorge themselves and become surfeited.

For feed we prefer corn mostly; a little wheat, rye, or barley, is also very well as a change; oats have rather too much husk about them. In addition to these, boiled potatoes, sweet apples, pumpkins, and sugar beet, are excellent food, especially when mixed with a due proportion of mush or hasty pudding. Where sweet potatoes abound, they are an excellent substitute for the last. To the above, add daily a little lean meat, that which is cooked is preferred; and the last week of their fattening, for a finishing process, rice boiled in milk and sweetened with molasses, is very excellent. This may be called an expensive method; but our readers may be assured that the fowls will be enough better to pay for it. Meat derives much of its taste from the kind and quality of food that the animals consume; hence gross, fatty substances, fish, or anything that is disagreeable to the taste should be avoided in the food given to fowls during the fattening process, as these invariably impart more or less of their disagreeable flavor to the flesh of the poultry fed upon them. It is well known that the celebrated canvass-back duck derives its delicacy of taste from feeding on the bulbous roots of a peculiar grass

growing in the Chesapeake bay, and that other kinds of ducks are scarcely eatable, in consequence of their living almost entirely upon fish. These remarks will hold good to most kinds of birds, both of the water and land, and, indeed, of all animals; accordingly as their food is good or bad, so will be the quality of the milk, meat, or eggs.

We recollect when a boy, of having occasionally seen geese and ducks nailed through the webs of their feet to planks and floors, and hens and turkeys tied up and so closely confined to stakes, that they could not exercise. This was done so that they might fat the faster! How shockingly barbarous, and any one guilty of such a practice in these days, ought to be indicted, and severely punished for their cruelty and cupidity. We are totally opposed to the close confinement of beast or bird. Without exercise, the system can not be in a healthy state; and the meat of close confined animals is never as good, to say the least of it, as when they have plenty of fresh air, and are allowed to move moderately about.

The best method of killing fowls, is to cut their heads off at a single blow with a sharp axe, and then hang them up and allow them to bleed freely. By this process they never know what hurts them, or endure pain for a second. Wringing the necks of poultry is almost as shocking as nailing their feet to planks for the purpose of fattening them, and follows in the same barbarous category.

Scalding the fowl previous to picking, injures the feathers, and makes it troublesome to dry them, and we think the quality of flesh is somewhat injured by this process, especially if the weather be not pretty cold at the time. They should be picked as soon as possible after being killed, and their offal taken from them; be clean rinsed then in cold water, and hung up to dry, and kept as separate as possible till sold; packing them together in heaps injures the flesh. To be hung up and frozen for a few days, or even weeks before eating, makes the flesh more tender. To keep them the same length of time after roasting, especially if well stuffed, also adds to their delicacy of taste and tenderness.

When the bird is brought on to the table, it is perfectly shocking to see its head, legs, and feet, left upon it, though we know in many places this is fashionable, and considered highly genteel; but for our own part we detest such offal, and the sight of them frequently destroys our appetite for the time being. The process of carving also at the table is a dead bore. We like the French

fashion of cutting up the bird in the kitchen or at a side table, and having it passed round on the dish, every one then helping himself to such pieces as he likes best.

FERTILITY OF SEA-MUD.

SEA-MUD varies greatly in its composition, dependant something upon the soil of the neighboring uplands. It is considered a valuable manure in Europe, and is sought for with avidity, and transported not unfrequently considerable distances into the interior. We have seen it used with good effect in the United States, from Massachusetts to Pennsylvania; and are told that in Delaware and Maryland, and even farther south, it is highly prized by those who have tried it. On Long Island, the past summer, we were occasionally shown the fertilising results, not only of sea-mud, but of the marsh soil also, applied to the uplands a little removed from the borders of the marshes and the seashore. Our intelligent correspondent, Mr. Partridge, informs us he has used beach-mud in various ways with good effect; and that the past summer, two gentlemen whose country seats border his mill, were allowed to make use of the sediment from the tide mill-pond, and they found it added greatly to the productiveness of their gardens.

Sea-mud may be applied in different ways, according to its constituents. If it abounds with clay, it should be taken in the fall of the year, and spread broad-cast upon the land, and thus lie exposed to the action of the frost all winter. This pulverises it well, and in the spring of the year the roller should be passed over it in dry weather, followed by the harrow, and if any lumps remain after this operation, let them be beaten fine with the dung-beater. This is considered one of the best top dressings for grass land which can be given; it also answers well to be plowed in for either grain or root crops. Where the mud abounds more with sand, it is an excellent thing to put into barn yards and pig-styes, to be incorporated with the litter and manure; it may likewise be thrown into a heap until it becomes completely pulverised, and then spread upon the land.

As air-slacked lime or small broken lime can be obtained in this city for about half the price of quick lime, Mr. Partridge suggests that it would be an excellent ingredient to mix with the sea-mud, for the purpose of forming a compost. A bushel or two of the lime, to a cart-load of the mud, he thinks a good mixture. When it abounds

with considerable vegetable matter, we would recommend a greater proportion of lime, say from one to ten or twenty parts. Ashes and charcoal dust are excellent ingredients to mix with sea-mud, and when either of these or lime is used to form a compost, they make it much more lasting. It is less labor to transport the sea-mud directly to the place where it is to be used, and spread it broadcast at once upon the land; and as the saving of labor is quite an object in our country, we have found that this method of applying it is the most generally practised.

With the exception of a few of our more intelligent farmers, sea-mud and marsh-mud as fertilizers, are not valued as highly as they ought to be in the United States. They exist in immense quantities all along our seaboard, and may be had in an unlimited extent for the mere labor of transportation. We hope that some experiments may hereafter be made with them by some of our readers on the different kinds of crops, and that they will give us the results. The time, we think, is approaching, when sea-mud and marsh-soil will be as highly prized here as they now are in Europe.

SKETCHES OF THE WEST.—NO. II.

PLANTATION OF MR. GREY.—One of the best plantations, especially for its farm-buildings, which we visited in Kentucky, was that of Mr. Benjamin Grey of Versailles. The house, as is usual in the more southern states, stands near the centre of the domain on rising ground, and commands a fine view of the country around. It is in cottage style, large and roomy, and flanked by thick, strong chimneys, built up outside of the gable ends. A pretty yard of smooth green-sward, decked with shrubbery and evergreens, is enclosed around with pointed white palings, and adjoining this is a noble park, formed by merely underbrushing and thinning out a few of the trees of the original forest. These are usually termed wood-land pastures in Kentucky; yet in most instances, they better deserve the name of park, than many of those on noblemen's estates in Europe.

CROPS.—Mr. Grey's farm being principally devoted to stock, and what is rather unusual here, dairy products, the crops are but a secondary consideration. Hemp is the main one to which he gives his attention; and in addition to this, he raises a sufficiency of corn and the smaller grains for his own consumption. The rotation is much like that described in our first volume, under head of Tours in Kentucky.

STOCK.—This is very fine indeed, Mr. Grey having been highly spirited in this matter. His Short-Horns are choice, and quite numerous. We particularly admired the cow Mary Ann, with the calf at her foot. She has a fashionable and airy form; an up-head, and deer-like action; handles well, and in addition to all these, we were informed that she is an excellent milker. Three heifers of her produce we also admired; the two youngest were strikingly like their dam. After the Short-Horns, we were shown a few good Cotswold, and South-Down sheep, imported direct from England by Messrs. Bagg & Wait of Orange Co., in this state. The stock-hogs are a cross of the Berkshire upon the Thin-Rinds, (a grade Chinese,) and they make excellent porkers.

FARM BUILDINGS.—These are among the most complete we have seen in any place, and we speak of them with the more pleasure, because they are blameably deficient in farm buildings throughout the whole southwest. The climate here, it is true, is warmer and much more open than at the north; but it is in this *very openness*, that consists the principal suffering of the stock. The ground during this time is muddy, cold, and damp; and worse, consequently, for animals to repose upon, than when frozen dry, or covered with snow. Sudden changes are continually taking place. Mild weather prevails for a few days, relaxing the system; this is then followed not unfrequently by intense cold; the thermometer sinking in 48 hours from 55° or 60° above, to zero, and sometimes 8° to 10° below it. These sudden changes are very injurious to man and beast, and far more to be dreaded than the steady cold of northern latitudes; and for this reason, more attention should be paid to the warmth of their dress on the part of the people here, and to the housing of stock, than is generally done. It would lessen disease, add to their longevity, and give a handsomer, fuller, and more healthful physical appearance. But to return more immediately to our subject.

With the exception of the usually reserved gangway on the barn-floor, the lower story is devoted to stables. These are planked, and each animal is accommodated with a separate stall. Behind them is a shallow gutter, running the whole length of the stable, which conducts the liquid falling from the animals into a cess-pool in the yard, and is there absorbed by muck. The solid manure is also equally carefully saved and applied to the land, and notwithstanding the proverbial fertility of the soil of Kentucky, Mr. Grey assured us that he considered himself well paid in the increase of

his crops, for the labor employed in thus saving and applying his manure. Over-head in the barn are lofts for hay and straw; a straw-cutter to prepare them for feeding; cribs and bins for grain; and a large square box with heavy wooden pounders, for the hands to pound up corn and cob into meal on rainy days, when they can do nothing else. This cob-meal is usually mixed up with water, and allowed to stand till it ferments, and is then fed to the stock.

THE DAIRY.—This is a sufficiently roomy building, of one story, situated in a little dell a short distance from the mansion. One of the gable ends abuts against a nearly perpendicular cliff, out of which bursts a clear gurgling spring, that takes its course through the centre of the rocky floor of the dairy, and then finds its way into the valley below. Here is every convenience for making butter and cheese, in which Mr. Grey excels. We have dwelt thus minutely on the plantation, stock, and buildings of Mr. Grey, because we consider them an excellent example to follow in Kentucky; and also for the purpose of giving our northern readers a general idea of the husbandry at the west, of which the great majority entertain the most indefinite notions imaginable.

MR. HART'S PLANTATION.—After taking an early dinner, Mr. Grey ordered up his buggy, and we started for Mr. Nathaniel Hart's. This was some few miles off, yet in order to get there we paid no attention to the public roads, but took our way over gentle hill and dale, through woodland-pastures, and among fields containing a hundred acres or more in each, under a single fence. For the purpose of opening and shutting the field-gates as we passed, we were accompanied by an ebony urchin, as out-rider, mounted on the bare back of a high-spirited gray nag, which he rode with no little address. This seemed quite a gala business for him; and bare-headed, with his thick woolly locks fluttering in the wind, and his shirt-collar wide open, he went grinning along, now advancing at a hard gallop, and anon closing up at a fast trot, swinging open and shutting to the gates, shaking his pate, and hallooing to every animal that he thought did not move with sufficient alacrity from our destined path.

"Yo! ho! So you no move, Misser Cow—then Pompey make you," and at her he charged, brandishing a long stick, like a Cossack of the Don with his spear, the gray nag at the same time laying back his ears, and opening his mouth, and showing his teeth, as if grinning in fiery sympathy with his redoubtable rider, and ready to devour the

animal that so sluggishly obstructed the path. But one look from the cow, or whatever beast it might be, at the horse and boy, seemed quite enough; and without waiting further hints, they would shake their tails, then give them a slight curl, and set off at a round scamper, the triumphant Pompey following up their career a short distance, singing with high satisfaction:—

I tell you so, now Misser Cow;
Yo, ho, you go, bow wow, bow wow.

Mr. Hart's plantation is a very fine one, and he is one of the largest hemp-growers in Kentucky. He has done much to introduce a system of water-rotting hemp in ponds, which we think is the best and most simple of the kind yet tried. He has promised us a description of this, with his late improvements, and we trust that we shall be favored with it soon, for the benefit of those desirous of preparing their hemp for market by the pond-water-rotting process. There is so much in common with Kentucky plantations, that it is unnecessary to dwell further upon particulars. Mr. Hart's stock of cattle is principally derived from the first importation of the Short-Horns into Kentucky, in 1817. He keeps a flock of about 800 Merino sheep, which, low as wool is, he thinks make him as good, if not a better return, than anything else which his plantation produces. Sheep-husbandry is attracting much attention at present in Kentucky. It is a very superior region indeed, for sheep, and if the planters would go judiciously into the fine-woolled breeds, wool would soon become an article of large export with them, and a source of considerable profit. Let it be remembered, that the cheaper and better wool can be produced, the more there will be consumed of it; and the cheaper and better, woollen cloths will be furnished in return. We need not fear overstocking the country in our generation.

Mr. Hart keeps quite a herd of deer in his park, and several head of elk. These last, with their large branching horns, and lofty, erect heads, have a noble appearance. He formerly had a few buffaloes, but they became so troublesome in breaking down fences, and sallying out whenever they pleased, to the great terror of the country round, that he was at last obliged to kill them. Buffalo bulls get somewhat ferocious as they grow old, and are rather dangerous animals on the plantation. While in Kentucky, we picked up some comic anecdotes of their doings as they turned out; but a feather's weight in the other scale might have made them equally tragical; and upon the whole, unless enclosed within a fence that they

could not break down, we should advise our friends to eschew keeping buffaloes.

BREEDS OF FOWLS.

IN perusing the American Poultry Book, which we noticed in our October No., we find the following recommendation for selecting a stock for the poultry-yard:—

The better practice would seem to be, in order to make the poultry-yard most profitable, to select *no particular breed*. Commence with pullets and cocks of the first year, of all the breeds mentioned above, except bantams, and without any regard to color excepting those of a pure white. It would be well, if possible, to select the cocks from the same yard. Every year exchange a nest-full of eggs with your neighbors, or such as have good fowls. By pursuing steadily this practice of exchanging eggs, you will yearly infuse new blood into your stock, and avoid the inconvenience of breeding in and in. Without being aware of this fact, many farmers find their stock *running out*, &c.

Now the above plan for forming a stock for the poultry-yard we hold to be perfectly absurd, and one might with just the same propriety, advise mingling all the different breeds of horses or cattle together, for the purpose of forming a good stock, as the different varieties of fowls; and we need only consider for one moment, the incongruity of the materials which form them, to be convinced of this. There is the pugnacious Game-cock; the pheasant-shaped Top-knot; the coarse Malay; the thick-skinned Negro-fowl; the tender Chinese or Merino; the tailless Rumpless; the Friesland, with reversed feathers; the short-legged Creeper; the five-toed Dorking; &c., &c.; all thrown into one helter-skelter mass, the progeny of which would prove as contemptible a race of mongrels as ever graced a dung-hill, and beyond the precincts of a dung-hill they would scarcely be worth removing.

Those who have most eminently succeeded in breeding fowls, have adopted the same course in doing so, which is followed by judicious breeders of animals; and that is, by sticking to the breed, when it is a good one, in its utmost purity; choosing the best of the flock from which to propagate, and thus continuing. In-and-in breeding, to a certain extent, when pursued by those who thoroughly understand their business, has been productive of the best results. The finest, the largest, and the most *indomitable* game-cocks have thus been bred; and if we possessed a good breed of poultry of any kind, we should be very careful how we exchanged eggs with our neighbors for the purpose of im-

proving them. If they had a superior stock to our own, of the same breed, we would select from among them grown birds only; we should then know what we got, and be able to make improvements upon those we already possessed. It is by mingling all sorts of breeds together, without any definite notion as to the results, that "many farmers find their stock *running out*"; and if every one were to follow this course, we should soon be without a single good fowl in our poultry-yards. We really regret to see a book like this on American Poultry, which in the main is a good little work, recommend such a course of breeding; for in our humble judgment it is the very worst which could be pursued.

We can not say that we much like the author's advice either, as to the choice of a cock. Why he should be "restless, not very large, with a thick and stout bill, long spurs," &c., we can not divine. The best cocks we ever kept, and those of the most indomitable courage, when fighting was necessary, were the most quiet, attentive, and polite in their seraglio: they were also of rather large size for their breed; with fine heads, bills, feet, and legs.

NEW YORK FARMERS' CLUB.

THE Farmers' Club resumed their meetings, on Tuesday, Nov. 13th, at the Repository of the American Institute.

The meeting commenced by reading a communication from the President of the Manhattan Gas Light Company, David C. Colden, Esq., inviting the attention of farmers, and all interested in agriculture, to the value of the refuse of gas-works as manure. Extracts from the works of Liebig, and Johnston were then read, setting forth the powerful fertilizing properties of ammoniacal liquor, with which the refuse of gas-works is found to be strongly impregnated. After some conversation on the subject, in which Mr. Stevens, Commodore De Kay, Mr. Meigs, and Mr. Wakeman, took part, as to the best method of disposing of this communication, it was resolved that it be referred to a committee consisting of Gen. Tallmadge, Mr. Prince, Gen. Johnson, Col. Clarke, and Mr. Townsend, to report at the next meeting of the club.

Mr. William R. Prince, of Flushing, presented to the meeting, specimens of nineteen different varieties of apples, among which were several of very large size and superior quality.

Mr. Meigs presented seeds of a new variety of squash, the *Cucurbitur bicolor*.

Mr. Ward, cuttings from a vine which produced ripe Isabella grapes on the 5th September.

A desultory conversation then ensued as to the future proceedings of the club. Much diversity of opinion appeared to exist as to the propriety of holding the meetings weekly, fortnightly, or monthly, when a committee was appointed to report upon the subject.

Dr. Field next called the attention of the club to a subject which he considered deserving their serious attention, viz: the present condition of the children now in the alms-house on Long Island. He thought they might be employed advantageously to themselves and the public, either in the cultivation of the mulberry, and general management of silk, or in horticultural occupations. He then proceeded to describe with feeling eloquence, their present deplorable condition, both morally and physically, arising from the system of idleness they are now allowed to pursue.

He was followed by Mr. Stevens, and Mr. Carter, who both agreed that it was high time some steps should be taken to ameliorate the condition of the poor children, and it was finally resolved:

That a committee consisting of Dr. Field, Mr. Stevens, and Mr. Carter, be appointed to investigate the subject, and petition the corporation that the pauper children of this city, now on the Long Island farm, be employed in horticultural pursuits generally, and also in the raising and manufacture of silk.

Mr. Stevens then made some remarks on the subject of wax-flowers and fruits, a specimen of which was exhibited by Mr. Lane. Mr. Stevens thought that a model of every new variety of fruit ought to be taken in wax, and preserved at the Repository of the Institute.

A motion was made and carried that the executive committee be instructed to consider the subject.

Gen. Tallmadge suggested that a list of donors of fruits, &c., be kept by the secretary, and placed on the records of the club at every meeting, which was unanimously agreed to.

The meeting then adjourned to Tuesday, the 28th November.

The following are the extracts on refuse gas, sent to the club by the President of the Manhattan Gas-Light Company:—

"If the properties of manure, and its agency upon the growth of the vegetable world, can be explained by chemistry, we shall find the ammoniacal liquor produced in gas-works, to be a valuable substitute for those manures, by the application of which it is intended to supply the soil with nitrogen.

"One of the most valuable manures is urine,

and its excellence depends almost entirely upon the ammoniacal salts which it holds in solution. The relative value of urine as manure, depends upon the quantity of nitrogen the different kinds yield. Thus human urine is the most esteemed, and that of horned animals the least."—*Clegg's Treatise on Gas-Making.*

According to Liebig, 547 pounds of human excrement contain 16.41 pounds of nitrogen; a quantity sufficient to yield the nitrogen of 800 pounds of wheat, rye, oats, or of 900 pounds of barley. How much more, then, will be supplied from an equal weight of ammoniacal liquor!

Mr. J. Watson, the manager of the gas-works at Kirriemuir, has favored me with the following facts:—

"The ammoniacal liquor on the surface of the tar-well has been found a very great improvement as a manure for raising crops of grass in this quarter, by being sprinkled on the field in the same way as water is put on public streets in large towns, to keep down dust in dry weather. I have myself seen an experiment of this tried, and can say that part of a field of grass sprinkled in this way, after the first cutting, was far superior to any other part of the field receiving manure of any other kind, and that the part so sprinkled, or showered over, was ready to be cut down a second time in the course of between fourteen days and three weeks; whereas, the other part of the field cut at the same time, was only beginning to spring or rise from the roots in that time. It must be mixed up before use with four parts of common water. In particular, the said experiment of the gas-water has been used by David Nairn, Esq., Doumkillba, near Meigle, in this neighborhood, with success; and I am informed that he has purchased and taken a lease of the ammoniacal liquor from different gas-companies in this country.

"I am convinced much good might be derived from different qualities of the refuse products of gas-works as manure. An inquiry into this subject would remunerate the engineer or agriculturist to the full, and would besides confer a considerable benefit upon his fellows, and give that practical proof of the correctness of a theory so welcome to the man of science."

"The fertilizing power of gypsum has been explained by its supposed action on the ammonia which is presumed to exist in the atmosphere. If this be the true explanation, a substance containing ammonia should act *at least* as energetically. At all events, the action of foldyard manure and of putrid urine, is supposed to depend chiefly on the ammonia they contain or give off.

"Now among the substances containing ammonia in large quantity, the ammoniacal liquor of the gas-works is one which can easily be obtained, and can be applied in a liquid state at very little cost. It must be previously diluted with water till its taste and smell become scarcely perceptible.

"I would propose therefore, as a further experiment, that along with one or more of the substances above mentioned, the ammoniacal liquor of the gas-works should be tried, on a measured portion of ground, and, if possible, in the same field.

"Soot as a manure is supposed to act partly, if not chiefly in consequence of the ammonia it contains. In Gloucestershire, it is applied to potatoes and to wheat, chiefly to the latter, and with great success. In the wolds of Yorkshire it is also applied largely to the wheat-crop. In this country it is frequently used on grass land. I am not aware that it is extensively used on clover. I am inclined to anticipate that the sulphur it contains, in addition to ammonia, would render it useful to this plant. At all events comparative experiments in the same field with the gypsum and the ammoniacal liquor, are likely to lead to interesting results.

* * * "Of ammoniacal liquor 100 or 200 gallons per acre, according to its strength, for this is constantly varying. It must also be diluted with so large a quantity of water as will render it perfectly tasteless, and is likely to prove most beneficial if laid on at several successive periods."
—*Johnston's Agricultural Chemistry*, part 1.

"Sal ammoniac is probably too expensive an article to be employed; but sulphate of ammonia may be had of the wholesale chemist at a price considerably more reasonable, and the ammoniacal liquor of the gas-manufactories, through the distillation of coal, is a still cheaper commodity."
—*Liebig's Agricultural Chemistry*.

"Its efficacy as a manure is vouched for by many who have made trial of it upon their land. See a communication by Mr. Paynter on gas-water as a manure."—*Journal Royal Ag. Soc.*, No. 1.

THE NEXT ANNUAL SHOW OF THE STATE AGRICULTURAL SOCIETY.

As the annual show of the New York State Agricultural Society is now sure to bring fifteen to twenty thousand strangers into the place where it may be held, to pass three or four days there, and spend their money pretty freely, it has become quite an object with the different towns situated on the great thoroughfares, to have the exhibitions within their boundaries as often as possible. Strong movements will be made for these hereafter; but we trust that the Society will weigh well the different claims preferred for its favor, and that no other consideration than the public good, and the spread of its influence, will have weight in its decisions.

Albany, Syracuse, and Rochester, each having had the advantage of one of these meetings, other towns now are soliciting the like favor; and among those which are preferring their claims for the show of 1844, we understand that Buffalo, Utica, and Poughkeepsie, are the most prominent. Perhaps as the northern and western parts of the State have now had the benefit of three of the exhibitions of the Society, it is no more than fair that some attention be paid to the southern and eastern portions. We have heard this city named as a

very suitable place for the show of next year, and the only objection we can anticipate to it is, that it is an extreme end of the State. Granted; and is not Buffalo the same? Yet, notwithstanding this, we contend that New York or Buffalo is just as fairly entitled in their turn to one of the exhibitions of the Society, as Albany, Syracuse, or Rochester. However, as our own interests might be somewhat served by a meeting of the State Society in this city, we shall waive advocating its claims to one for the present, and content ourselves with stating those of Poughkeepsie.

1. This town is 210 miles by the usual travelled route, northwest from Montauk Point, the southeast end of the State. This is as great a distance as from Poughkeepsie to Syracuse, and 41 miles further than the railroad route, though a circuitous one, from Syracuse to Buffalo; so that it may fairly be said to be the hither-end of a third-part of the limits of the State.

2. The population, from Dutchess county, south and east, includes about one fourth of that of the whole State.

3. Poughkeepsie is easy of access by land or water, and being situated on the Hudson, hundreds of strangers from the neighboring States, especially the southern ones, would visit a show here, when they could hardly be induced to go farther north or west, and as these visitors are always purchasers to a greater or less extent, it is quite an object to get them to attend.

4. This town is the capital of one of the oldest, wealthiest, and most populous counties of the State, and the one whose general system of agriculture is probably more highly advanced than any other. Dutchess, and the neighboring counties, have also considerable improved stock—much more than we had any idea of till our recent excursions in these parts. Durham, Devon, and Ayrshire cattle abound; superior road and blood horses; Cotswold, Leicester, South Down, and numerous flocks of Merino sheep; the products of the dairy; agricultural implements, and roots, seeds, fruits, flowers, and domestic fabrics.

5. Poughkeepsie is ready at her own expense, to build pens for the stock, and furnish all other needful accommodation for the Society, which will be a saving of expense to it of at least \$1,000.

Lastly, there is more accumulated wealth in the southern, than other parts of the State, and the Society, by holding a fair proportion of its shows in this quarter, will make itself many staunch friends, and be introduced to thousands who would otherwise be ignorant of its great pub-

lic merits. The Agricultural Society of the State of New York is looked up to as an example throughout the country, and it should be careful to avoid even the appearance of being partial or local in its proceedings. The national societies of Great Britain and Ireland, adopt the course of holding their shows in, not only the central, but the extreme parts of the kingdom; and this is one great reason of their popularity among all classes.

Tour in England. No. 15.

THINKING that our readers had become somewhat satiated with so much upon foreign matters as have hitherto found place in this journal, we had desisted for several months past, giving sketches of the agriculture of England; but having recently received so many solicitations to continue them, we again take up the subject, and shall pursue it pretty regularly through the whole of our third volume, if such seems to be the pleasure of a majority of our subscribers. Perhaps, to these, we may also add sketches of some things we saw in Russia, the recollections of which are very pleasant, at least to us, yet whether we shall make them equally so in relating them to others, remains to be seen.

CHATSWORTH, SEAT OF THE DUKE OF DEVONSHIRE.—In returning from Yorkshire to London on the North Midland railroad, we stopped at the Chesterfield station, for the purpose of making an excursion to Chatsworth, to view the celebrated gardens and immense conservatory of this superb place. It was a raw morning in August, and as we jumped from a confined seat in the rail-coach, we were glad to be on our feet once more, and have an opportunity of rousing our blood by a smart walk from the station into the town. We stopped at the Angel inn, took a hearty breakfast, and while waiting a gig being made ready to convey us to Chatsworth, stepped out for a stroll over the place. Chesterfield is a dingy old town, of about 6,000 inhabitants, and has little to recommend it to the notice of strangers, save the spire of All Saints' Church. This rises to the height of 230 feet, is curiously channeled, and covered with lead, and is so much out of perpendicular, as to attract marked attention in passing it, even when at a considerable distance. It being market-day, the town was thronged with farmers from the country, exposing stock and agricultural products in the square for sale. There was little in these, however, deserving particular attention, and after giving them a hasty look, we returned

to the inn. As we came up, a dapper waiter announced the "oss and gig as hall ready;" when in we jumped, and set out for Chatsworth at a round pace, distant, if we recollect right, about 8 miles.

Derbyshire possesses the wildest and most broken scenery of any county in England, and after passing over the flat surface of Yorkshire, it was quite a relief to find ourselves trotting up and down along a road winding picturesquely around high hills, and over deep narrow dales. An hour's drive or so, brought us to the pretty little village of Edensor, close by the inn of which, is the entrance to Chatsworth. The village is situated within the park, and is the property of the Duke, and certainly it is the most charming one we ever saw. Every cottage is of stone, and no two alike in their architecture. One is a mimic Gothic castle; another a cottage ornée; a third in the Elizabethan, a fourth in the Swiss, and perhaps a fifth in the Tudor style. Everything then was so complete about them—the pretty gardens full of flowers—the hedges so neatly trimmed—the yards, laid down with the greenest and softest of turf, and the shrubbery so tastefully planted! These were the residences of the laborers on the estate, the possession of which any one might envy them, and desire to be able to call his home. Attached to the village is a fine old church, and around it an ample yard, handsomely walled in with strong mason-work. Altogether, this village is quite a gem in its way, and we were going to add, an epitome of its owner's heart; for on all his estates, whether in England or Ireland, the Duke of Devonshire has made it a point to protect and bountifully provide for his people. There is no want, or suffering, or seeking the poor-house, by the tenantry, allowed by this kind-hearted, benevolent man.

Turning from Edensor, and ascending a mound-like hill to the left of the carriage-road, the palace and the grounds of Chatsworth appear to the greatest advantage. Immediately below is the river Derwent, tracing its sparkling course through a rich vale, where were perhaps 1,500 deer browsing or taking their gambols. A handsome stone bridge spans the river, and just beyond, the ground rises in terraces to a narrow plain, where stand the noble palace, with its out-buildings, and the immense conservatory, in magnificent grandeur. Back of these rises a lofty hill, the steep sides of which are thickly planted with forest-trees, and the summit is crowned with a high tower of octagonal shape, built of stone. We were received at

the palace-gate by a servant in handsome livery, and passing into the gallery of the court, a fine hearty girl made her appearance to conduct us over the building. The front of the palace is 350 feet, and one of the side wings about 400 feet long, and this whole area contains a series of apartments called the drawing-room suite. An entire number of this paper would hardly suffice to give the reader a complete description of these magnificent rooms, and the treasures of art they contain, we therefore pass them over in silence. From these we strolled into the orangery, which is about 30 feet wide, and 200 feet long. It is full of beautiful exotics, and among them were several specimens of the *Rhododendron Arboreum*, which bore, the preceding summer, over 2,000 flowers. We now walked out to the lawn in front of the palace, where one of the under-gardeners appeared to conduct us over the grounds. These are extremely beautiful, with walled terraces in the Italian style, and fountains. One jet d'eau throws up a column 90 feet high. But the great show here in the way of water-works, is the cascade. It is entirely artificial, and must have been made at a great expense. The water rushes out from a series of lakes on top of the hill, and comes pouring down its side, taking a leap of about 80 feet from one of the arches, and then falls for a length of 300 yards over a series of 24 ledges, and disappears amidst masses of rock, on the edge of the lawn. Here it finds a subterranean passage to the river Derwent. These water-works are looked upon by some critics with affected contempt; not so with us, however, we greatly admired them in their way; and yet we have seen Niagara a thousand times, and had a peep at most of the other water-falls worth looking at in the United States. We have no sympathy with such hypercritics as profess a distaste to the cascade at Chatsworth: as a work of art, it is a magnificent thing, and to our eye, in keeping with the palace and grounds; and we viewed it with interest. A bronze tree a little farther on, excited still greater curiosity with us than the cascade, for it was made to act the part of a fountain, by throwing water from a thousand sprigs and leaves all around in a shower of spray.

But leaving this and the exquisite scenery of the lawn, we passed on by a winding carriage-road to a short distance to the conservatory. This was 350 feet long, 150 feet wide, and nearly 70 feet high; and when fully completed, is to have an additional length of 150 feet. The roof is an arch,

and is covered with plate glass of the best kind, and so thick as to resist the heaviest hail. It is heated by iron tubes of hot water, and to these are added others for cold water, and the whole, if stretched out to a single length, we were informed would extend nearly six miles. The plants and trees here are distributed in open borders, each class being placed in the soil most proper for it, and the temperature so regulated as to suit their natural state as nearly as possible. Not far from the centre is an immense rockery rising about 50 feet high, and from the fissures of the thick slabs of stone that compose it, the cactus and other plants grow out as in their natural state. Half way up this huge precipice is a little lake with islets, and in this, water-lilies and other aquatic plants of the rarest and most beautiful kinds. A wild goat path leads to the top of the rockery, and beneath it is a wide, deep cave. The variety of shrubs and plants in this immense conservatory is very great; some of the trees already reach nearly to the top of the roof, and others presented dimensions gigantic in the extreme for those within a green-house. There are wide folding-doors at each end of the conservatory, and any time he pleases, the Duke can have a drive with his coach and four horses through it. Taking it altogether, it is by far the most magnificent thing of the kind we have ever seen. The whole cost of it is not less than half a million of dollars, which is but a little over the present annual income of its wealthy possessor.

After leaving the conservatory, we took a zig-zag road, and ascended through the forest to the crown of the hill by the octagonal tower. A peasant family was residing here, who permitted us to ascend it to the top. The view from this is no less extensive than beautiful, of Chatsworth and the wild broken country around. Descending from this high perch we had quite a chat with the peasant's wife. She informed us that the tower was built by a predecessor of the present Duke, for the purpose of giving the ladies at the palace an opportunity of seeing the fox-hunting which formerly took place at Chatsworth. Upon taking leave, the good woman directed a little rosy-faced daughter to show us the lakes on the hill, the sources of the cascade and fountains below. After something of a stroll through the woods, we found two large expanses of water belted in by thick rows of the larch and fir, and apparently as isolated as if in a wild forest of our own country. The white swan and the black are kept here, and most other

kinds of curious water-fowl. Our pretty guide answered all our inquiries with intelligence, and at parting we gave her a small guerdon, for which she returned a grateful "thank'e zur" and a low courtesy, and then, with the lightness of a young fawn, skipped into the woods, and immediately disappeared. Descending the hill toward the palace we came to the stables. These are very extensive, of quadrangular shape, and large courtyards within. At a distance, with their imposing architecture, they might almost pass for the palace itself.

We now bent our steps to the house of the celebrated Mr. Paxton, the head gardener of the Duke of Devonshire, editor of the Magazine of Botany which bears his name, and one of the first botanists of England. His residence is within the park, about a quarter of a mile from the palace, and is a roomy, beautiful cottage, completely enveloped in flowers and flowering shrubbery, with a handsome little conservatory at the end. Much to our regret, he was not at home; but a sub-gardener, quite an intelligent man, volunteered to show us the gardens. They occupy 12 acres, and are enclosed by a thick, brick wall, about twelve feet high. Here are the experimental and kitchen gardens, and hundreds of fruit-bearing espaliers, trained up the walls. In addition to these there are forcing pits in abundance, and upward of 20 hot-houses, about 300 feet long each, devoted to different purposes, one of the most extensive of which is the growing of pine apples. All these things may be considered very extravagant, but in supporting them, the Duke of Devonshire has done much for the cause of science, and has conferred a lasting benefit on his country.

We left Chatsworth with regret; the day we spent there we would have gladly prolonged to a week, and then we should have gained but an imperfect knowledge of the treasures of nature and art which are stored up here for the admiration of thousands of visitors. Mary Queen of Scots was some time a prisoner here; so also was Marshal Tallard, who was captured at the battle of Blenheim. What were the thoughts of the beautiful Queen upon taking leave of it, history does not record; but the Marshal, no less gracefully than happily, said: "When I return to France and reckon up the days of my captivity in England, I shall leave out all those I have spent at Chatsworth." And so thought we, pausing on the mound-like hill again, as we retraced our steps to Edensor, and cast a last lingering look upon the park, and palace, and forest hills in the back-

ground, lit up by the clear, glorious sun just sinking beneath the horizon.

AGRICULTURAL SHOWS.

THE PHILADELPHIA SOCIETY held its annual show at the Lamb tavern, October 4, 5, and 6. The Germantown Telegraph states, in the *Report of the Committee of Arrangements*, that the display of horses was unusually attractive, exhibiting the various breeds for the turf, road, and farm, in considerable numbers. The Durham cattle seem at last to be getting the better of prejudice in that quarter, and in their superior forms and deep milking qualities, have shamed nearly everything else from the ground, save a few fine Devons and capital grade Durham milkers. Of sheep and swine, there were very few present, which is the more to be regretted, as these animals exist in considerable numbers and of superior breeds throughout the neighboring counties of Montgomery, Delaware, Chester, and Lancaster. Of Agricultural Implements and Products there was a good show, and the Plowing-Match proved an interesting affair. Peter A. Browne, Esq., delivered the address, which we find at length in the Farmers' Cabinet. Among other things, he contends no less strenuously than justly for the establishment of Agricultural schools and Professorships. From another part of the address we subjoin a few suggestions.

First, then, it is feared that our agricultural friends have not yet paid *all* the attention that the subject demands, to a judicious rotation of crops, adapted to our climate; particularly in regard to roots.

Second. Much has been done, that is beyond all praise, in insuring the best breeds of cattle. While we hear pronounced with gratitude, the names of Mease, Powell, Brantz, Clay, Gowen, and Kelley, let us not forget that the task is not finished.

Third. Soiling, it is apprehended, has been too much neglected by most American husbandmen.

Fourth. Irrigation has also been too little attended to in the United States.

Fifth. Proper care and precaution have not been sufficiently bestowed upon the selection of seeds. This is a subject of the greatest importance.

Sixth. Much is yet to be learned in regard to the preservation and economical use of manure.

Seventh. The introduction, more generally, of labor-saving machinery, and particularly of the itinerant thrashing-machine, deserves to be mentioned.

Eighth. Gardening and raising fruit are much neglected by our farmers.

It is respectfully suggested that special committees might, with advantage, be raised upon

these and other useful topics, to report at the next annual meeting.

Pennsylvania contains nearly thirty millions of acres. According to the census of 1840, she had a population of one million seven hundred and odd thousands, which is nineteen acres and a fraction for each inhabitant. In 1842, she raised, of grains of all kinds, upward of sixty millions of bushels; of potatoes, nearly thirteen millions of bushels; of hay, upward of two millions and a quarter of tons; of flax and hemp, upward of three thousand three hundred tons; of tobacco, four hundred and eighty thousand tons; of silk, upward of twenty-one thousand pounds; of sugar, nearly three millions and a half of pounds; and of wines, nearly eighteen thousand gallons.

THE HENRICO SOCIETY held its third annual show at Richmond, Virginia, November 1st. The proceedings are published in the Richmond Enquirer. The Executive Committee reports, that although there is a falling off in its receipts, there is an increased interest and attention to its proceedings by the planters. Mr. C. T. Botts, Editor of the Southern Planter, made the address, from which we subjoin an extract.

This society was organized and has been chiefly supported by a few public-spirited gentlemen in the neighborhood. Its beneficial effects are felt and seen by all of you. To form a proper appreciation of them, you have only to ride in any direction about the suburbs of the city. Rude grounds have been converted into productive gardens, and barren wastes into smiling fields. I recollect a lady's saying to me last summer, that she meant to make her husband become a member of this society, because it had done so much to beautify the rides and walks about the city. She declared the time had been when it gave her a fit of the horrors, (she was a nervous lady,) to order her carriage for an evening drive; but that now, there was nothing that she and her children enjoyed so much. But this is not all. Let him who has been familiar with your market for the last eight or ten years, compare its present abundant supplies of the finest fruits and vegetables, with the meager exhibition of former days; and, after all, let us be as sentimental as we will, a good market plays a very important part in the comedy of human happiness. Our merchants and mechanics too should remember, that these exhibitions are annually becoming more and more attractive, and that they are by no means inefficient in increasing the trade of the city. But, over and above all considerations of dollars and cents, let us, one and all, come forward and enrol our names as members of this association, which represents the great agricultural interest of the state, and which should be the pride and ornament of its metropolis.

LAKE COUNTY SOCIETY.—The show of this society took place at Medina, Ohio, and a complete account of its proceedings may be found in the Painsville Telegraph. In addition to the usual show of stock, &c., an extensive procession was got up of wagons and carriages, preceded by bands

of music. One of these held no less than 35 ladies, engaged in the laudable occupations of knitting, sewing, spinning, and various other domestic employments. We wish we could chronicle more such industrial displays, for we consider them an excellent feature in agricultural shows.

BOURBON COUNTY SOCIETY OF KENTUCKY.—We learn from the Paris Citizen, that the Eighth Annual show of this Society took place near Paris, and continued three days, and is said to be the largest and most varied ever held in Kentucky. The first two days were devoted to the exhibition of domestic animals, agricultural products, and farming implements; the third day, to that of domestic manufactures. The show of horses present was considered very superior; they were of all varieties, from the mettlesome thorough-bred, to the enormous cart-horse. The Durhams and other horned stock were well represented, and gave evidence in their splendid proportions of the superiority of Kentucky pastures. The descendants are said to be an improvement over the original importations from England. Mr. Clay was present, and had a superb pair of blankets presented him by Mrs. James Hutchcraft. These were made from the wool of Leicester sheep, and were of uncommon size and thickness, weighing 23 lbs. the pair. On the presentation of these blankets, Mr. Clay was addressed by the Hon. Garrett Davis, M. C., and he replied in his usual elegant and happy manner.

HAMPSHIRE, HAMPDEN, AND FRANKLIN SOCIETY, MASSACHUSETTS.—The united show for the three wealthy and populous counties above, came off at the beautiful town of Northampton, on the 18th and 19th October, and we much regret on more accounts than one, that we could not be present. The Boston Cultivator furnishes a full report. A large number of working-oxen of course were present, and to these were added some superb fat oxen, exhibited by Mr. Sumner Chapin. The committee who reported upon this subject, attributes the superiority of the cattle to the large infusion of Short-Horn blood in their veins, and hence their fine symmetry, light offal, and increased weight of flesh on the more valuable parts, as compared with native stock when fattened for the shambles. Mr. Paoli Lathrop exhibited some choice Short-Horns. Of native cows the committee thus speak:—

Of the ten cows entered for the premium as *native* animals, nearly or all have an intermixture of Short-Horn or other foreign blood. We awarded to Mr. Minor Hitchcock the first premium in this class. In his written statement to us it ap-

pears that her average product in milk for the six months, ending 1st October, was 49 lbs. per day, and in the months of June and July, 58 lbs. per day. In butter, her average product in the same time was more than 11 lbs. per week, and in the month of July alone, nearly 14 lbs. per week; yet in the same time he used the necessary milk and cream for his family of four persons. Your committee have entire confidence in the statement of Mr. Hitchcock; yet it is proper here to remark, that from his account of her, and though awarded a premium as a native animal, she partakes highly of the blood of the Short-Horns. In the two classes of animals entered as of *native and foreign origin*, it is obvious that a proper discrimination was not made; for in some of the former there is evidently more of the blood of distinct imported races than the latter. Yet your committee deemed it their duty to award the premiums of the society to the two classes as they found them.

Now here it is, most everywhere that our native cows are found excelling as milkers, we can trace a portion of their blood, (usually the greatest share,) to the Durhams, and yet there are those who are constantly decrying the Short-Horns for not being *milkers*. Verily a few particular people are very hard to be convinced. It is our intention hereafter to make up a table of the milking qualities of the Short-Horns and their grades, and any one possessing information upon this subject, we shall be glad by their communicating the same to us. Mr. Paoli Lathrop of South Hadley took the first premiums on Durham bulls and heifers. Mr. Ira Fenton of Belchertown on Durham cows. Mr. Sumner Chapin of Springfield, the first premiums on Fat Cattle and Working-Oxen.

SALE OF RAMBOUILLET MERINOS.—Mr. Nathaniel Hart, Jr., of Kentucky, has just passed through this city on his way home, having in company with him three Rambouillet Merino bucks, purchased of Mr. D. C. Collins of Hartford, Connecticut. Mr. Hart has kept a large flock of the old-fashioned Merinos for some time, on his plantation at Versailles, Woodford county, and has purchased these fine bucks, as the best animals which could be found, for the purpose of making improvements upon them. Kentucky will have in these Rambouillets a valuable addition to her sheep stock, and we recommend their produce in advance, to the breeders of the western country. We understand Mr. Collins has recently met with a great demand for his sheep, and that he has now disposed of all he has to spare this year. We congratulate him upon it, and take some credit to ourselves, for calling public attention to his very valuable imported flock.

SHEEP-DOGS.—The price of a well-broke sheep-dog is \$25 to \$30. They ought always to be accompanied by their shepherds, as they are taught to manage sheep in a peculiar way, which none but regularly-bred shepherds understand.

ANNUAL MEETING OF THE N. Y. STATE AGRICULTURAL SOCIETY.—The annual meeting of the New York State Agricultural Society, will be held at the Society's room in the Old State Hall, Albany, on the 3d Wednesday, (the 17th,) of January, 1844, at 10 o'clock, A. M.

Persons intending to compete for the Society's premiums on field-crops, essays, &c, are reminded that their statements and essays must be sent to the Recording Secretary, Albany, before the first of January.

Presidents of County Agricultural Societies are also requested to transmit the reports required by the statute, to the Recording Secretary, previous to the annual meeting.

LUTHER TUCKER, Rec. Sec'y.

LIST OF PREMIUMS

Of the American Institute.—Continued.

FLOWERS.

William Kent, Brooklyn, L. I., for superior dahlias, including some extra-fine American seedlings—gold medal.

George C. Thorburn, 15 John street, N. Y., for a rich display of dahlias—gold medal.

Daniel Boll, Bloomingdale, N. Y., for a fine assortment of dahlias, including some fine American seedlings—silver medal.

Thomas Hogg & Sons, 79th street, N. Y., for a good assortment of dahlias—Mrs. Loudon's Flower Garden.

William R. Prince, Flushing, L. I., for numerous varieties of dahlias—Downing's Rural Architecture.

Thomas Addis Emmet, Mount Vernon, N. Y.—T. Cremins, gardener—for a superior display of dahlias—Downing's Cottage Architecture.

William Phelan & Sons, 5th street, N. Y., for a fine display of dahlias—Hovey's Magazine.

William Reid, 34th street and 4th avenue, N. Y., for an excellent assortment of dahlias—Bridgeman's Gardeners' Assistant.

William Laird, 17th street, N. Y., for an ornamental frame, decorated with flowers—Hovey's Magazine.

James L. L. F. Warren, Brighton, Mass., for a beautiful bouquet of flowers—silver medal.

Mrs. Jeremiah Brown, Brooklyn, L. I., for a beautiful vase of flowers—Mrs. Loudon's Flower Garden.

J. B. Mantel, 46th street, N. Y., for an ornamental frame, decorated with flowers—American Flower-Garden Directory.

Daniel Boll, Bloomingdale, N. Y., for numerous varieties of the rose, and other rare flowers—Mrs. Loudon's Flower Garden.

Samuel M. Cox, Bloomingdale road, N. Y., for a beautiful stand of flowers—American Flower-Garden Directory.

William Beekman, 110 Ninth street, N. Y., for a fine supply of dahlias—Hovey's Magazine.

Isaac Buchanan, 29th street, N. Y., for two vases of rare flowers—1 Vol. of American Agriculturist.

To Alfred Bridgeman, J. Boyce, A. P. Cummings, William Davison, J. Ettringham, William V. Legget, Mrs. McFarlane, George Maine, William Ross, Samuel Ruth, Grant Thorburn, Jr., L. Van Wyck, Edward White, and John W. Wood, for supplies of flowers for ornamenting the Horticultural room, to each a copy of the Report of the American Institute, on the subject of Agriculture.

VEGETABLES.

Robert L. Pell, Pelham, Ulster co., N. Y., for the

choicest assortment of culinary vegetables—silver medal.

John Beekman, 61st street, N. Y., for the best and greatest variety of vegetable roots for cattle—silver medal.

Joseph Clowes, Harsimus, N. J., for twelve superior blood beets—United States Farmer.

Robert L. Pell, Pelham, Ulster co., N. Y., for twelve superior sugar beets—1 vol. American Agriculturist.

John Beekman, 61st street, N. Y., for twelve superior mangel-wurtzel beets—1 vol. of the Cultivator.

Christopher Allen, Staten Island, N. Y., for six fine heads of cauliflower—Buel's Farmers' Companion.

Peter Hulst, gardener to Lambert Wyckoff, Bushwick, L. I., for the best field of cabbage—silver medal.

L. Wyckoff, Bushwick, for twelve large heads of the drum-head cabbage—Transactions of the State Agricultural Society.

Thomas Bridgeman, Jr., Dutch Kills, L. I., for twelve fine heads of Savoy cabbage—Faulkner's Farmers' Manual.

Thomas Prosser, Paterson, N. J., for twelve superior carrots for the table—United States Farmer.

J. Clowes, Harsimus, N. J. for twelve fine roots of white celery—Transactions of State Agricultural Society.

Frederick Bonnicamp, Harsimus, N. J., for twelve fine roots of red celery—Dana's Muck Manual.

Robert L. Pell, Pelham, Ulster co., N. Y., for six large egg-plants—Bridgeman's Gardeners' Assistant.

John Brill, Jersey city, N. J., for a peck of superior yellow onions—Faulkner's Farmers' Manual.

William Ross, Ravenswood, Queens co., N. Y., for a peck of superior red onions—Smith's Productive Farming.

Joseph Clowes, Harsimus, N. J., for twelve fine parsneps for the table—American Agriculturist.

J. Beekman, 61st street, N. Y., for twelve large parsneps for cattle—United States Farmer.

Alexander Walsh, Lansingburgh, for superior seedling potatoes—Bridgeman's Gardeners' Assistant.

T. B. Wakeman, Bergen, N. J., for superior Mercer potatoes—silver medal.

William J. Townsend, Newtown, Queens co., for a superior lot of table potatoes—Bridgeman's Gardeners' Assistant.

S. B. Townsend, Newtown, L. I., for three large cattle pumpkins—Buel's Farmers' Companion.

R. L. Colt, Paterson, N. J., for a peck of superior potatoes for cattle—1 vol. of Cultivator.

John P. Haff, Yorkville, N. Y., for a peck of superior white flat turneps—1 vol. of Cultivator.

Peter Wyckoff, Bushwick, Kings co., for twelve superior roots of long white turneps—Bridgeman's Gardener's Assistant.

S. Pabor, Harlem, N. Y., for superior cream pumpkins—Smith's Productive Farming.

F. O. Wakeman, Bergen, N. J., for twelve superior roots of salsify—American Agriculturist.

John Brill, Harsimus, N. J., for three fine winter squashes—Faulkner's Farmers' Manual.

John A. Miller, Little Falls, N. J., for a fine large Valparaiso squash—Dana's Muck Manual.

H. W. Tibbets, Yonkers, N. Y., for half a peck of large tomatoes—United States Farmer.

Robert L. Pell, Pelham, Ulster co., for a fine sample of hops—American Agriculturist.

Robert L. Pell, Pelham, N. Y., for superior specimens of sweet potatoes—diploma.

P. Hegone, 206 Greenwich street, for superior specimens of pickles and catsup—diploma.

FRUITS.

R. L. Pell, Pelham, Ulster co., N. Y., for the best fruit farm—gold medal.

R. T. Underhill, Croton Point, N. Y., for successful vineyard-culture of the native grape—silver medal.

J. L. L. F. Warren, Brighton, Mass., for twelve superior table apples—Bridgeman's Gardeners' Assistant.

R. L. Pell, Pelham, Ulster co., N. Y., for twelve superior winter apples—Kenrick's American Orchardist.

T. H. Perkins, Brookline, Mass., for twelve superior varieties of house-grapes—gold medal.

R. S. Field, Princeton, N. J., for three superior varieties of house-grapes—silver medal.

J. F. Allen, Salem, Mass., for six varieties of superior house-grapes—Downing's Cottage Architecture.

Rev. Dr. Wm. Patton, 110 Sullivan street, N. Y., for fifty-two superior bunches of Isabella grapes—Downing's Rural Architecture.

R. T. Underhill, Croton Point, N. Y., for superior specimens of Catawba grapes—Kenrick's American Orchardist.

J. L. L. F. Warren, Brighton, Mass., for twelve superior peaches (freestone)—Kenrick's American Orchardist.

John J. Van Wyck, 140 Twenty-first street, N. Y., for twelve superior peaches (clingstones)—Bridgeman's Gardeners' Assistant.

M. P. Wilder, Dorchester, Mass., for sixty-five choice varieties of pears—silver medal.

George C. DeKay, 25th street, Seventh avenue, N. Y., for a superior lot of table pears—Kenrick's American Orchardist.

D. Henderson, Jersey City, N. J., for twelve fine magnum-bonum plums—Buel's Farmers' Companion.

C. M. Graham, Jr., Content, Harlem lane, N. Y., for fifty-five quinces gathered from one tree—Kenrick's American Orchardist.

Jacob Hendrer, Glenham, Dutchess co., N. Y., for fine specimens of grapes—Bridgeman's Gardeners' Assistant.

J. W. Hayes, Newark, N. J., for a lot of grapes and fine pears—Farmers' Companion.

John Couzens, Dobb's Ferry, Westchester co., N. Y., for superior specimen of grapes—United States Farmer.

Wm. R. Prince, Flushing, L. I., for two bunches of native grapes, and fine specimen of apples—Hovey's Magazine.

William Reid, 37th street, 4th avenue, for a fine collection of pears and apples—American Agriculturist.

Charles M. Graham, Jr., Content, Harlem lane, for a fine lot of Isabella grapes—Transactions of State Agricultural Society.

J. J. Morris, Batavia, N. Y., for fine specimen of pears—Farmers' Manual.

Nicholas Wyckoff, Jr., Bushwick, for fine specimens Isabella grapes—The Planters' Guide.

J. B. Mantel, 46th street, N. Y., for 53 varieties of pears and other fruit—two vols. of the Transactions of the State Agricultural Society.

Joseph L. Franklin, Flushing, L. I., for twelve extra large apples—Dana's Muck Manual.

H. & L. Hotchkiss, New Haven, Conn., for one pear weighing 33 oz.—1 vol. of the Cultivator.

Samuel Walker, Roxbury, Mass., for superior varieties of pears—silver medal.

Henry Steel, Jersey City, N. J., for a lot of extra-fine early grapes—Bridgeman's Gardeners' Assistant.

Miss Louisa Bennett, L. I., for a basket of native strawberries—Bridgeman's Florist's Guide.

MAKING CAPONS.

THE following article on making capons, is the best within our recollection. It is taken from the directions accompanying the sets of instruments for caponising, made by Mr. John Mendenhall, Philadelphia:—

FOWLS intended to be cut, must be kept at least twenty-four hours without food, otherwise the entrails will fill the cavity of the belly and render it almost impossible to complete the operation; besides, when they have been starved the proper length of time, they are less liable to bleed.

The chicken is taken at any age, from five days old until it begins to crow, or even after. Lay the fowl on its left side on the floor, draw the wings back, and keep it firm by resting the right foot on its legs, and the other foot or knee on its wings. (The table with the apparatus does away with the necessity of this stooping position.) Be careful that the head of the fowl is not held down, or even touched during the operation, as it would be sure to cause it to bleed. Pluck the feathers off from its right side near the hip joint, in a line between that and the shoulder joint; the space uncovered should be a little more than an inch square. Make an incision between the two last ribs, having first drawn the skin of the part backward, so that when left to itself it will cover the wound in the flesh. In some fowls the thigh is so far forward that it covers the two last ribs; in which case, care must be taken to draw the flesh of the thigh well back, so as not to cut through it, or else it would lame the fowl, and perhaps cause its death in a few days after the operation, by inflaming.

The ribs are to be kept open by the hooks—the opening must be enlarged each way by the knife, if necessary, until the testicles, which are attached to the back bone, are entirely exposed to view, together with the intestines in contact with them. The testicles are enclosed in a thin skin, connecting them with the back and sides—this must be laid hold of with the pliers, and then torn away with the pointed instrument; doing it first on the upper testicle, then on the lower. (The lower testicle will generally be found a little behind the other—that is, a little nearer the rump.) Next introduce the loop; (which is made of a horse-hair or a fibre of cocoa-nut;) it must be put round the testicle which is uppermost, in doing which the spoon is serviceable to raise up the testicle and push the loop under it, so that it shall be brought to act upon the part which holds the testicle to the back; then tear it off by pushing the tube toward the rump of the fowl, at the same time drawing the loop. Then scoop it and the blood out with the spoon, and perform the same operation on the other testicle. Take away the hooks, draw the skin over and close the wound; stick the feathers that you pulled off before on the wound, and let the bird go.

REMARKS.—If the operation be performed without sufficient skill, many of the fowls will prove not to be capons; these may be killed for use as soon as the head begins to grow large and get red, and they begin to chase the hens. The real ca-

pon will make itself known by the head remaining small, and the comb small and withered; the feathers of the neck or mane will also get longer, and the tail will be handsomer and longer: they should be kept to the age of fifteen or eighteen months, which will bring them in the spring and summer, when poultry is scarce and brings a high price. Take care, however, not to kill them near moulting time, as all poultry then is very inferior. The operation fails, principally, by bursting the testicle, so that the skin which encloses the soft matter, remains in the bird, and the testicle grows again.

Birds of five or six months are less liable to have the testicles burst in the operation than younger fowls, but they are also more apt to bleed to death than those of from two to four months old.

A skilful operator will always choose fowls of from two to three months;—he will prefer also, to take off the lower testicle first, as then the blood will not prevent him from proceeding with the other; whereas, when the upper one is taken off the first, if there should be any bleeding, he has to wait before he can take off the lower testicle.

The large vein that supplies the entrails with blood passes in the neighborhood of the testicles; there is danger that a young beginner may pierce it with the pointed instrument in taking off the skin of the lower testicle, in which case the chicken would die instantly, for all the blood in its body would issue out. There are one or two smaller veins which must be avoided, which is very easy, as they are not difficult to see. If properly managed, no blood ever appears until a testicle is taken off: so that should any appear before that, the operator will know that he has done something wrong.

If a chicken die, it is during the operation by bleeding; (of course it is as proper for use as if bled to death by having its throat cut;) they very seldom die after, unless they have received some internal injury, or the flesh of the thigh has been cut through, from not being drawn back from off the last two ribs, where the incision is made; all of which are apt to be the case with young practitioners.

If the testicles be found to be large, the bamboo tube should be used, and it should have a strong cocoa-nut string in it,—for small ones the silver tube with a horse-hair in it, is best.

When a chicken has been cut, it is necessary before letting it run, to put a permanent mark upon it; otherwise it would be impossible to distinguish it from others not cut. I have been accustomed to cut off the outside or the inside toe of the left foot,—by this means I can distinguish them at a distance. Another mode is to cut off the comb, then shave off the spurs close to the leg, and stick them upon the bleeding head, where they will grow and become ornamental in the shape of a pair of horns. This last mode is perhaps the best, but it is not so simple and ready as the first. Which ever mode is adopted, the fowl should be marked before performing the operation, because the loss of blood occasioned by cutting off the comb or a toe, makes the fowl less likely to bleed internally during the operation.

It is very common, soon after the operation, for the chicken to get wind in the side, when the wound is healing, between the flesh and the skin; it must be relieved by making a small incision in the skin, which will let the wind escape.

Those fowls make the finest capons which are hatched early in the spring; they can be cut before the hot weather comes, which is a great advantage.

Never attempt to cut a full-grown cock; it is a useless and cruel piece of curiosity. I have never known one to live.

Be not discouraged with the first difficulties; with practice they will disappear; every season you will find yourself more expert, until the cutting of a dozen fowls before breakfast will be a small matter.

It may be well to give a warning against becoming dissatisfied with the tools. A raw hand, when he meets with difficulties, is apt to think the tools are in fault, and sets about to improve them and invent others; but it is only himself that lacks skill, which practice alone can give. I have spent money, besides wasting my time in this foolish notion, but have always found that the old, original tools, which came from China, and where this mode of operating was invented, are the best.

Take care that the tools are not abused by ignorant persons attempting to use them; they will last a person's life-time if properly used; but if put out of order, none but a surgical instrument maker can repair them properly.

The object in giving publicity to this, is to have the markets of Philadelphia well supplied with capons: they have ever been esteemed one of the greatest delicacies, preserving the flavor and tenderness of the chicken, with the juicy maturity of age. In the Paris and London markets, double the price of common poultry is obtained for capons.

Considering the abundance and excellence of poultry in the United States, it seems surprising that the art of making capons should be almost entirely unknown—it is hoped that this deficiency will now be supplied.

GRAFTING AND BUDDING.

For what follows on grafting and budding, we are indebted to that excellent family paper, the *New World*. The article was prepared for it by J. S. Skinner, Esq., of the Post Office Department, Washington, from an English work, which, he adds, "is not published or much known in this country."

GRAFTING.—The process of grafting consists in taking off a shoot from one tree, and inserting it into another, in such a manner as that both may unite closely, and become one tree; the shoot or cutting thus employed is called a *scion*, and the tree on which it is inserted or grafted, a *stock*. The process of budding has precisely the same object in view as that of grafting, differing from the latter process only in the insertion of a bud, instead of a shoot or cutting, into the bark of another tree. To execute either process with adroitness

and success, considerable practice is required. To excel in either, instructions should be received from some competent person, who is both willing and able to impart the necessary information. More knowledge can be acquired in a short time in this manner than can possibly be attained by the most attentive perusal of any treatise expressly written upon the subject. Impressed with the difficulty of the task, many writers have indeed asserted, that description alone must ever fail to convey an adequate knowledge of the process; but the intelligent author of the *English Gardener* has, with his usual ability, treated the subject in so clear and comprehensive a manner that we are induced to give the details of the process in the author's own language.

Before entering upon the subject of grafting and budding, there is one thing which is equally applicable to both processes, and that is, that the *stock* ought to stand the whole summer upon the spot where it is grafted, before that operation is performed upon it. If stocks be planted out in the fall, the sap does not rise vigorously enough in the spring to afford a fair chance to the growing of the graft; another remark of equal importance is, that fruit-trees stand only *one summer* on the spot whence they are to be removed to their final destination; because, if they stand longer than this, they will have large and long roots, great amputation must take place, and the trees suffer exceedingly.

The Time of Grafting is generally from the beginning of February to the end of March,* beginning with the earliest sorts of trees, as plums, cherries, and pears; and ending with the latest, as apples. But seasons are different, and in a backward season, the season for grafting will be backward; and in such case, the fulness and bursting appearance of the buds of the stocks, and the mildness of the weather must be our guides. However, it is certain that the mild weather, with occasional showers, is the best time for grafting.

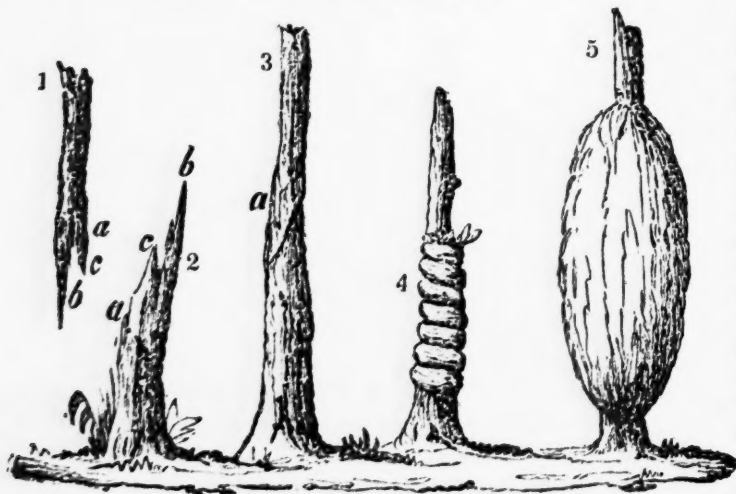
The Mode of Preparing the Scion comes next. Take from the tree from which you mean to propagate, as many branches of last year's wood as will cut into the quantity of scions that you want; but in choosing what branches to take, let the vigor of the tree guide you, in some measure. If it be a healthy, flourishing, and young tree, take your branches from the outside shoots, for the upright ones at the top, or those near the middle, are more likely to produce wood than fruit. Yet do not take branches from the very lowest part of the tree, if you can avoid it, as these are sure to be more puling in their nature. In case the tree be old or weakly, then choose the most vigorous of its last year's shoots, no matter where they grow. Keep these branches uncut until you arrive at the season for grafting, keeping them, in the meanwhile, buried in dry mould; and when that season arrives, take them up and cut them into the proper lengths for grafting. The middle part of each branch will generally be found to be the best; but your branches may be scarce and few in number, and then make use of every part. Each scion

* In this climate, April and May are the best months.
—ED. AM. AG.

should have from three to six eyes on it, but six will, in all cases, be quite enough, as there is no use in an extraordinary length of scion; but, on the contrary, it may be productive of much mischief, by overloading the head with young shoots and leaves as summer advances, and thereby making it more subject to accident from high winds or heavy rains.

The Operation of Grafting is performed many ways, though none of them differs from any of the others in the *main principle*, which is that of bringing the under or inner bark of the scion to bear upon the same bark of the stock. The sap of the stock flows upward toward the scion, and it will flow on into the scion, provided it find no interruption. Here, therefore, is the nicety—to fit those two barks so closely, the one upon the other, that the sap shall proceed onward into the scion, just as it would have done into the amputated branch, causing the scion to supplant the branch. I shall only mention and illustrate two modes of grafting, viz., *tongue-grafting* and *cleft-grafting*. These two it is necessary for me to speak of separately, and thoroughly to describe, for they are not both of them applicable in all cases; the former being used in grafting on small-sized stocks and small branches of trees, and the latter on large stocks and large branches.

TONGUE-GRAFTING.—(FIG. 58.)



Tongue-Grafting.—Suppose you have your stock of the proper age for grafting, you cut it off at three or four inches from the ground, and with a very sharp, straight, and narrow-bladed grafting-knife, cut a thin strip of bark and wood upward, from about two inches below your already shortened stock. Make this cut at one pull of the knife, inserting the edge rather horizontally, and when it has gone through the bark and into the wood a little short of the middle, pull straight upward, (2, *a, b*;) then at rather less than half way down this cut, and with the blade of your knife across the cut, and downward, cut a very thin tongue of not more than three eighths of an inch long, (2, *c*.) Proceed nearly in the same way with the bottom part of the scion; cut first a narrow strip of wood and bark out, but not putting the knife in horizontally, as you have done with

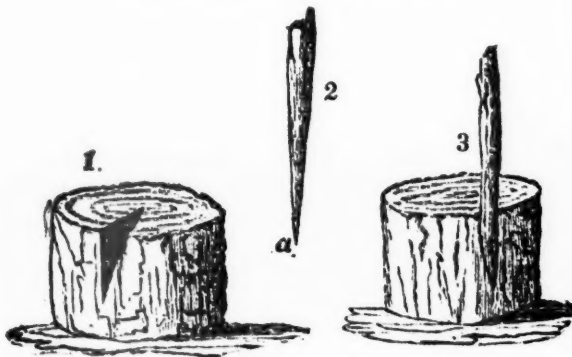
regard to the stock, (at 2, *a*;) nor bringing it out straight to the end, to make a shoulder or angle, as you have done at (2, *a, b*;) but make a sloping cut (1, *a, b*;) of about the same length as the cut in the stock, or rather a little less if anything; then make a tongue (1, *c*) to correspond with that of the stock, but recollect that this must be cut upward instead of downward; then place the scion upon the stock, inserting the tongue of the scion into the tongue of the stock. Bring the four edges of bark, that is, the two edges of the cut in the top of the stock, and the two corresponding edges of the cut in the bottom of the scion, to meet precisely; or, if the scion be, in diameter, a smaller piece of wood than the stock, so that its two edges of bark can not both meet those of the stock, then let only one meet, but be sure that one meets precisely. But observe, that this can never be unless the first cut in the stock and that in the scion (2, *a, b*;) and (1, *a, b*;) be as even as a die, and performed with a knife scarcely less sharp than a razor. Take a common pruning-knife, and attempt to make a cut of this kind, and you will find when you come to fit the scion on, that, squeeze them together as you may, you will, in most cases, see light between the parts of the stock and the scion that you are trying to join, so effectually, as that the sap shall flow out of the one into the other, unconscious of any division at all! But I

will not suppose anybody so ungain (as it is called in Hampshire) as to go about so nice an operation as this without being prepared with the proper instruments for performing it; and therefore, I now suppose the scion put on properly, and presenting the appearance as in (3, *a*.) But this is not all; the operation is not yet complete. The two parts thus joined must be bound closely to one another with matting, or bass, as the gardeners call it, (4.) A single piece tied on to the stock, will, if well done, almost insure the junction; but lest parching winds should come and rip up all vegetation, it is usual to put on besides the bandage of matting, a ball of well-beaten clay sprinkled over with a little wood-ashes or the fine siftings of cinders, to cover completely the parts grafted, that is, from an inch below them to an inch or so above them, (5;) and, even to prevent this ball of clay from being washed off by heavy rains, it is well to tie around it a covering of coarse canvass, or else to earth up the whole plant as you do beans or peas, drawing a little mound around it so as to reach nearly the top of the clay. Mr. Harrison prepares his grafting clay in the following manner: Take two parts of clay and one of horse-dung, free from straw, mix them together, and beat the mass until the whole is thoroughly incorporated, then temper it with a little water till it is reduced to the consistence of stiff paste. This composition never cracks on drying!

Future Treatment.—Something now remains to be said on the future treatment of the grafted plant. In a month's time at least, you will see

whether the scion has taken ; it will then be either bursting forth into leaf or be irrecoverably dead. In this latter case, take off immediately the canvass, clay, bandage, and dead scion, and let the stock push forth what shoots it pleases, and recover itself. In the former case, however, you must, as soon as the scion is putting forth shoots, cut off, or rub off, all shoots proceeding from the stock between the ground and the clay, as these, if suffered to push on, would divert the sap away from the scion, and probably starve it; then carefully stake the plant, that is, put a small stick into the ground at within three inches, or thereabouts, of the root, and long enough to reach a few inches above the scion, which you will tie to it slightly with a piece of wetted matting. This is really necessary, for when the shoots proceeding from the scion become half a foot long, they, with the aid of their leaves, become so heavy as, when blown to and fro by the wind, to break off immediately above the clay, or become loosened down at the part joined to the stock. The staking being done, you need do nothing more till near the end of June, when you should take off the whole mass of canvass, clay, and bandage, but be careful in taking off the clay not to break off the plant at the junction. It should be done by a careful hand, and after a day or two of rainy weather, as then the clay is moist and comes off without so much danger to the plant as when it is not. On taking off the clay, there is found a little sharp angle, left at the top of the stock; this should now be cut smooth off. The bark of the stock and that of the scion will heal over this, and the union is then complete. Lastly, it is frequently found that mould, and sometimes small vermin, have collected around the heretofore covered parts of the plant, according as the clay has been cracked by the sun. Rub off all mould with your fingers, (no instrument does it so well,) and kill all vermin in the same way; and it is not amiss to finish this work by washing the joined parts with a little soap and water, using a small paint-brush for the operation. All these things done, you have only to guard against high winds, which, if the plant be not staked, as is above described, will very likely be broken off by them; and, in this work of destruction, you will have the mortification of seeing the finest of your plants go first.

CLEFT-GRAFTING.—(FIG. 59.)



Cleft-Grafting.—This is a species of grafting adopted in cases where the stock is large, or where

it consists of a branch or branches of a tree headed down. In either of these cases, saw off horizontally, the part you wish to graft, and smooth the wound over with a carpenter's plane, or a sharp, long-blade knife, (1.)

Prepare your scion in this manner: At about an inch and a half from the bottom, cut it in the form of the blade of a razor; that is, make it sharp on one side, and let it be blunt at the back, where you will also take care to leave the bark whole, (2, a.) Having thus prepared the scion, make a split (1) in the crown of the saw-cut downward for about two inches, taking care that the two sides of this be perfectly even. Hold it then open, by means of a chisel or a wedge, (or when the stock is but a small one, your knife,) and insert the scion, the sharp edge going inward, and the bark side or razor-back remaining outward, so that, on taking out the wedge or chisel, the cleft closes firmly on the scion, (3,) the two edges of bark formed by the cleft, squeezing exactly upon the two edges of bark formed by the blunt razor-back. To make the two barks meet precisely is the only nicety in this operation; but this is so essential, that the slightest deviation will defeat the purpose. In this sort of grafting, the stock on which you graft is generally strong enough to hold the scion close enough within its cleft, without the aid of binding, and then it is better not to bind; but as it is also necessary to prevent air circulating within the wounded parts both of the stock and the scion, use grafting-clay to cover them over so as to effectually exclude the air; and cover the clay with a piece of coarse canvass, wetting it first, and then binding it on securely. In this way, the stock being strong, you may insert several scions on the same head, by making several different clefts, and putting one scion in each; but this can only be to insure your having two to succeed, for if all the scions that you put on one head take, you must choose the two most eligible, and sacrifice the rest, as more than two leading limbs from such head ought not to be encouraged. The season for performing this sort of grafting, and the mode of preparing the scion, and the future treatment of the tree, are precisely the same as in *tongue-grafting*.

Crown, or Bark-Grafting is a very ready method of grafting upon large, uneven, old stocks and branches. It is practised somewhat later than the methods above described, that is, from the end of March to the third week in April, because, in that period, the separation of the bark from the wood is more easily affected; a circumstance of primary importance in this case. The tree is to be headed down, the cut being made horizontally, and the section bored quite even and smooth; then make a slit in the bark two inches in length, next with the handle of a budding-knife, carefully open the bark for about a quarter of an inch; then cut the scion about two inches in a sloping direction, in the form of a tongue, leaving the bark entire on the outside. The scion thus prepared, is pressed downward between the bark and the wood as far as the incision in the stock extends; the bark of the stock readily yields to the pressure employed, and the scion is supported in its situa-

tion by a few coils of bass-matting, the whole being surrounded by clay.

Dove-Tail Grafting.—This is a very neat and successful mode of grafting, originating with Mr. Malone, who gives the following directions for its performance. The scion is to be selected so as to have two or three buds above where the knife is to be inserted to prepare it for the operation; a slip is cut off the end of the scion, sloping it to the bottom as long as it may be decided to insert it into the stock. On each side of the cut, as far as it extends, a part of the bark is to be taken off, leaving the under part broader than the upper, on which upper or back part always contrive to leave a bud. The stock or branch to be worked is thus prepared: Being first cut off smooth and straight, two parallel slits, distant from each other nearly the width of the scion and the length of its cut part, are then made in the bark of the branch, observing particularly to slope the knife, so that the under edge of the cut next the wood may be wider than the outer edge. The piece of bark between the slits must then be taken out, separating at the bottom by a horizontal cut. The scion will then slide into the dove-tail groove thus formed, and, if the work is well performed, will fit neatly and tightly. A small quantity of the grafting-clay must then be carefully applied, securing it on with list, or any other convenient bandage, fastening it at the end with two small nails. The top of the stock should be entirely covered with clay, sloping it well up to the grafts, and should be examined often to see if any cracks or openings appear, which should be immediately filled up with some very soft clay. The proper time for performing the operation is from the beginning of April till the middle of May, or earlier if the sap is in motion. (Gardener's Magazine, Vol. VII.)

BUDDING.—(FIG. 60.)



BUDDING.—Budding is performed for precisely the same purpose as grafting, and, like grafting, it is performed in many different ways; and as long experience has ascertained the best method, namely, that of T budding, (1,) so called from the form of the two cuts that are made in the bark of the stock to receive the bud, or *shield-budding*, as it is sometimes called from the form of the piece of bark (2) on which the bud is seated, assuming the shape of a shield when it is prepared to be inserted within the T cut in the stock.

The only solid difference between budding and grafting is this, that whereas in grafting you in-

sert on the stock a *branch* already produced, in budding, you insert only the *bud*. I shall proceed, in treating of this matter, in the same way that I did in the preceding article, namely, *as to the season proper for budding, the choosing and preparing of the bud, the operation of budding, and the future treatment of the plant budded.*

The Season for Budding is generally from the latter end of July to the latter end of August, the criterions being a plump appearance of the buds formed on the spring shoot of the same year, seated in the angle of a leaf, and a readiness in the bark of the stock to separate from the wood.

In Choosing and Preparing the Bud, fix on one seated at about the middle of a healthy shoot of the mid-summer growth—these are, generally speaking, the most inclined to fruitfulness. Choose a cloudy day, if you have a choice of days at this season, and if not, perform your work early in the morning, or in the evening. The time being proper, you sever the branch on which you find the buds to your liking. Take this with you to the stock that you are going to bud, holding the branch in your left hand, the largest end downward; make a sloping cut from about an inch and a half below the bud to about an inch above it, suffering your knife to go through the bark, and about half way into the wood, cutting out wood and all. This keeping of the wood prevents the bud and its bark from drying while you are preparing the incision in the stock, and if you wish to carry buds of scarce sorts to any distance, you may do so safely by putting their ends in water, or in damp moss, but it is always safer, as well in grafting as in budding, to perform the operation with as much expedition as possible, but particularly it is so in budding.

Operation of Budding.—Cut off the leaf under which the bud is situated, but leave its foot-stalk, (2, a,) and by this hold it between your lips, while with your budding-knife you cut two straight lines in the stock at the place where you wish to insert the bud, and this should be where the bark is smooth, free from any bruises or knots, and on the side rather from the mid-day suns. Of these lines let the first be horizontal, (1,) and let the next be longitudinal, beginning at the middle of the first cut and coming downward. Let them, in short, describe the two principal bars of the Roman letter T. You have now to take out from the bark on which the bud is, the piece of wood on which the bark is, and which has served you, up to this time, to preserve the bud and bark from drying and shrinking. But this is a nice matter. In doing it you must be careful not to endanger the root of the bud, as it is called, because in that is its existence. The bark, (if the season be proper for budding,) will easily detach itself from this piece of wood, but still it requires a very careful handling to get it out without endangering the root of the bud. Hold the bud on your fore-finger, and keep your thumb on the wood opposite; then with the fore-finger and thumb of the other hand, bend backward and forward the lower end of the shield, and thus coax the wood to disengage itself from the bark; and

when you find it decidedly doing so, remove your thumb from it, and the whole piece of wood will come out, leaving you nothing but a piece of bark of about two and a half inches long, with a bud and foot-stalk of a leaf on it. If the root of the bud be carried away with the piece of wood, you will perceive a small cavity where it ought to be. In this case, throw away the bud and try another.

Having succeeded in the second attempt, now open the two sides of the longitudinal bar of the T with the ivory haft of your budding-knife, but in doing this, raise the bark clearly down to the wood, for the inside of the piece of bark belonging to the bud must be placed directly against this. Having opened these sides wide enough to receive the longest end of the bark, insert it nicely, taking especial care that its inner side be flatly against the wood of the stock. Then cut the upper end of the bark off, so that its edge shall meet precisely the edge of the horizontal bar of the T (3, a.) With your finger and thumb bring the two sides of the longitudinal bar over the bark of the bud, or rather the shield, and with a piece of well-soaked matting, begin an inch below this bar and bind firmly all the way up to an inch above the horizontal bar, taking good care to leave the bud peeping out. Bind in such a way as to exclude the air, for that is the intent of binding in this case. Tie your piece of matting on first, and wind it round and round the stock as you would a riband, taking care not to twist the matting; wind it slowly, and every time you have gone completely round, give a gentle pull to make it firm.

Future Treatment.—In a fortnight's time from the operation, you will discover whether the bud has taken, by its roundness and healthy look; and, in a fortnight after that, loosen the bandage to allow the plant to swell, and in about five weeks from the time of budding, take away the bandage altogether. In this state, the plant passes the winter, and just as the sap begins to be in motion in the following spring, you head down the stock at about an inch above the bud, beginning behind it, and making a sloping cut upward to end above its point. Some gardeners leave a piece of the stock about six inches long for the first year, in order to tie the first summer's shoot to it to prevent its being broken off by the wind. This may be well when the plant is exposed to high winds, but even then, if you see danger, you may tie a short stick on the top part of the stock, and to this tie the young shoot, and then the sap all goes into the shoot from the bud, instead of being divided between it and six inches of stock left in the other way. There are some advantages which budding has over grafting, and these I think it right to mention. In the first place, universal experience has proved that certain trees succeed much better when budded, than the same trees do when grafted, such are the peach, nectarine, apricot, plum, and cherry; indeed, the rule is, that all stone-fruits do better budded than grafted, that they are, when budded, less given to gum, a disease peculiar to stone-fruits, and often very pernicious to them. You may also, by budding, put two more branches upon a stock that would be too weak to take so many grafts, and you may bud in July when

grafting has failed in March and April. The disadvantage of budding is that the trees are rendered one year later in coming into bearing than when you graft.

Mr. Knight has recommended a mode of budding, (*Hort. Trans.*, vol. I.) He thus describes the process: In the month of June, as the luxuriant shoots of my peach-trees were grown sufficiently firm to permit the operation, I inserted buds of other varieties into them, employing two distinct ligatures to bind the buds in their places. One ligature was first placed above the bud inserted, and upon the transverse section through the bark; the other which had no further office than that of securing the bud, was applied in the usual way. As soon as the buds had attached themselves, the ligatures last applied were taken off, but the others were suffered to remain. The passage of the sap upward, was in consequence much obstructed, and the inserted bud began to vegetate strongly in July, and when these had afforded shoots about four inches long, the remaining ligatures were taken off to admit the excess of sap to pass on, and the young shoots were nailed to the wall, being there properly exposed to light, their wood ripened well, and afforded blossoms in the succeeding spring.

We should be pleased if any of our readers could give us further information about the shrub described below.

From the Yankee Blade.

HIGH CRANBERRY.

A gentleman of this place having occasion some twenty years ago, to make an excursion into the northern part of the state, near Lake Umbagog, where the Magalloway empties into the Androscoggin, passed through a large piece of low land, comprising many acres, which was covered with the high cranberry as far as the eye could see, exhibiting the most beautiful and splendid appearance, perhaps, ever displayed from any of the spontaneous productions of the forests of New England. He says that some shrubs which he acquired the magnitude of trees of several inches diameter, were literally bent to the ground, under the weight of their luxuriant fruit; and such was their abundance, that a single individual might have gathered more than thirty bushels in a day.

The high cranberry in dense forests, sometimes acquires the respectable altitude of 15 or 20 feet; but in more open places, its height is generally from 6 to 8 or 10 feet. Its stem and leaf very much resemble those of the snow-ball; and the flower, while it lasts, is but little inferior in elegance and beauty to the flower of that highly ornamented and much esteemed shrub. The fruit is smaller than that of the running cranberry, of a bright red color when ripe, and grows in large, flat clusters on the ends of the branches. Its taste is very acid, and rather austere. It contains a large, hard, flat seed, which is an objection to the use of it without sifting or straining; but being sifted or strained after stewing, it is excellent for sauce, pies, and tarts. Prepared with sugar, in the usual way, it makes a most delicious jelly.

ORIGINAL CORRESPONDENCE.

For the American Agriculturist.

FINE WOOL SHEEP.

Buskirk's Bridge, October, 1843.

I HAVE read the article headed "Sheep, Paular Merinos," over the signature of Examiner, in the May number, page 52 of your paper, purporting to give us plain farmers an insight into sheep breeding, &c.; and what fine flocks used to be, when the "old fashioned Merino sheep" were in their "glory." What they were a quarter of a century ago, I cannot say, that was before I had any thing to do with sheep in this country; but I presume that *fine* flocks were then not so numerous as they are now. I can not agree with the writer, "that the fine flocks of the United States are sadly deteriorated, indeed, nearly run out." Since 1825, I have been acquainted with fine sheep in this country, and I venture to say, that there are three, four, or five, and in this section, *ten*, fine flocks, where there was but one 18 years ago.

If Examiner will honor me with a visit, an invitation I herewith cordially tender to him, I will show him *fine* flocks, consisting of more than a few individuals—a dozen or two, or may be a few scores, of picked sheep together, and kept in the very highest possible condition; no, but flocks from 500 to 1,000—even more—which might alter his judgment, if that is not swayed by prejudice. Many of these large flocks shear on an average 3 lbs. and over, of wool, well washed on the sheep's back, the quality of which is superior to the "Paular," and "old-fashioned Merinos;" and I doubt not, should Examiner make a comparison between the two kinds himself, he would pronounce it *superfine*; and besides the quality, he would also discover a great difference in the condition and cleanliness of the wool. These flocks are high-grade Saxons, and show a result not quite so "unfortunate" as Examiner would make us believe. My own flock of 240 ewes and lambs and a few bucks, pure, unmixed Saxons, whose pedigree can be traced back to the importations of the Elector of Saxony, from the royal flocks of Spain, sheared this year 2 lbs. 13 oz. per head; last year 2 lbs. 14 oz. clean wool. If I had had a proportionate number of weathers among them, the average would have been at *least* 3 lbs. I repeat then, that the wool of the "Paular," or "old fashioned Merinos," does not compare with the Saxons and their crosses in quality and condition. If the fleeces from the former are heavier than from the latter, let it be borne in mind that they contain more *gum*, and *yolk*, dirt, &c.; are not so fine, and that the sheep *consume a greater quantity of feed*. These are facts well known to every good judge of wool, and to every experienced, practical shepherd.

I would ask whether Examiner had his eyes closed against them when he was examining the fine-wooled flocks of the United States, and declared them "sadly deteriorated, indeed, nearly run out." I do not pretend, Mr. Editor, that I am acquainted with all "the fine flocks of the United

States, but allow me to say, that my acquaintance among the wool-growers is pretty extensive. I am a purchaser, as well as a grower of wool, and handle no inconsiderable quantities yearly. My purchases this year amount to over 130,000 lbs., and I have examined at least 300,000 lbs., and a great variety of flocks of different grades and character, have come under my observation—sheep kept in the very lowest up to the very highest condition. I have always found, that where the blood of the "old fashioned Merinos, Paulars," or whatever their possessors are pleased to call them, predominated, there also I found *gum*, *yolk*, dirt, and other substances adhering to the wool, in great abundance, *unfit to make cloth* of, which goes far to make up the greater weight of fleece over the Saxony. Indeed, sir, when gentlemen talk of fine fleeces weighing 8, 9, or 10 lbs. they forget to mention "*including gum, yolk, dirt, and other substances adhering to the fleece.*"

Some years since, I saw a lot of "old fashioned Merino" wool at a factory in Massachusetts, which the manufacturer assured me would lose 55 per cent. in cleansing. "Indeed," said he, "we can never estimate the dirt in such wool correctly; it always exceeds our estimate, and we invariably suffer loss." And recently, a gentleman, a dealer in wool, told me that he sent this season, a large quantity to Boston to be sold, and that on making sale of some 36,000 lbs., the manufacturer who bought it, rejected all gummy, dirty fleeces, declaring that he would not have them, as such wool would lose more than 50 per cent. in cleansing. And to use the gentleman's own words, "there it lies, in a corner of the wool room, and I do not know what to do with it;" observing at the same time, that the manufacturers were "getting more cunning." There was a time when the supply fell short of the demand, and almost any wool, however gummy and dirty, found ready purchasers; for manufacturers were often compelled to buy it, in order to keep their machinery in operation; but that time has gone by, and they are now more choice in their selections, and when they come across a lot of such wool they pass it by, with observations like these: "I do not want it, it is too dirty, let him keep it for some body else!"

In your July number, page 130 and 131, Mr. Editor, you have made a calculation of the number of sheep, and the quantity of wool obtained therefrom. The census of 1840 shows, say 20,000,000 in the United States. Of this number you estimate only 11,000,000 shorn sheep, yielding 24,500,000 lbs. of wool, and the lambs at 9,000,000.—With due deference to your superior opportunities for information, I beg leave to say that you are over estimating the number of lambs, for every practical wool-grower knows, that that proportion is too large—if you had said one third, you would have come nearer the truth. I think you are mistaken also that the census of 1840 included lambs, it was exclusive of lambs. (a) You are, however, perfectly safe in estimating the average weight of fleece in the United States at 2½ lbs. This is certainly too low by one fourth of a pound. (b) In this region it exceeds 2¾ lbs. Then you say, that by producing a superior quality of wool, its value

would be increased nine cents per pound; this certainly is attainable; but the way in which you propose to bring it about, namely, by crossing with the "Paular, or old-fashioned Merinos," you would not obtain that end, thousands of fine flocks would be reduced in quality. (c) In this section it would reduce the quality as much as you wish to improve it. Coarse sheep would be improved by the cross; but to apply it to all the sheep in the United States, as I understand you to say, you would find yourself very much mistaken in the result. I venture to say, that on the same quantity of feed, you can not increase the heft of fleece of a fine flock shearing from $2\frac{3}{4}$ to 3 lbs., by your cross up to $3\frac{3}{4}$ to 4 lbs. per head, and have the wool in equally good condition. (d) An increase of feed will do much toward increasing the heft of fleece. A few words more and I have done.

Examiner, page 52, says: "As to Paular Bucks, it strikes me that you might, for any practical purpose, just as well have advised a cross of the fabulous Unicorn, for it would be just as easy to find the one as the other at the present time in the United States; for depend upon it, there is no such thing now existing, as a *Paular Buck*, nor *any thing deserving the name* in the whole country." And you say that "there are still large and valuable flocks scattered over the country." (e)

H. D. GROVE.

(a) Immediately upon the receipt of this letter of Mr. Grove's we wrote on to Washington to ascertain the facts in the case, but were answered that the census bureau was abolished, and they could not tell. We know that when the person for taking the census in the district in which we were then residing, called upon us, he required the number of colts, calves, lambs, and pigs, although some of them were only three days old at the time; and to our objection of rendering an account of such young stock, he remarked, "never mind, they will be grown when the census appears, and it is the law." Most of those to whom we have put the question about rendering an account of the lambs in their flocks, say they did so; others do not recollect. If there has been irregularity with sheep-owners in giving an account of their lambs, of course we are incorrect; and we think, upon reflection, we may have estimated the number of lambs too high; though, on the other hand, we are quite certain Mr. Grove has set them down as entirely too few; for we know flocks that produce within a fraction as many lambs annually as there are breeding ewes.

(b) Perhaps when Mr. Grove has travelled south and west more extensively, and seen in the months of March and April, as many half-bare sheep as we have, which shed their wool from disease, want of care, &c., he may come to a different conclusion. We have often seen flocks in the same

condition at the north too, leaving many of our farmers little to boast of in this respect.

(c) We have turned to the article to which Mr. Grove alludes, but really, we do not find that we used the expressions attributed to us. We said "Spanish Merino," also, "unadulterated Merino;" meaning thereby, the Rambouillet more particularly. We also spoke in general terms, in recommending the use of these. Such a flock of Saxons as Mr. Grove's we would *especially except*; and if the accounts which we hear of them be correct, and we have no doubt they are, we would not cross them with anything less fine than themselves. They are unquestionably superior animals, as is proved by their superior weights of fleece, and the high price the wool commands; and we wish, since the name of Saxon has been so basely misused in this country by miserable counterfeits, that Mr. Grove would give his flock the name of Electoral; for they and their descendants are probably the only ones entitled to it in the United States. With this name, they would then fairly stand aloof from the common herd, as they deserve, and not be associated in idea hereafter, with the miserable riff-raff of the country, passing under the general name of Saxons. It is our intention next season to call and see Mr. Grove's flock.

(d) We meant to be understood as alluding to a cross on the coarser and more restiff sheep of the country, when we spoke of obtaining an increase of weight of wool on the same food, and we know that this can be done.

(e) True enough, but we did not say these valuable flocks were Paulars; nor did we go so far as to assert that they were *pure* Merinos of any distinct name. We wish it understood, that we do not endorse all the opinions of Examiner any more than we do other correspondents — he speaks for himself, and we for ourselves.

For the American Agriculturist.

SEA-MUD AS A FERTILIZER.

Flushing, L. I., November 8th, 1843.

CAN you inform me whether the sea-mud which is found on the shore, below high-water mark, is of any value to the farmer; and if it is, in what way would you advise that it should be applied? Do you think that it would answer in a compost heap, or would it be preferable to put it into the cattle-yard or hog-pen? I have thought that the only objection to using it would be on account of the great quantity of salt, which it contains; although Leibig and other celebrated writers, speak in very favorable terms upon the application of salt. And here arises another question. Are not those farms which are situated upon the sea-shore sufficiently

supplied with salt by the winds which are constantly sweeping over them? Johnson remarks that this is the case, and if this is so, would not the application of this sea-mud be too strong? although I am inclined to believe that by drying the mud, much of the virtue of the salt would necessarily be destroyed, and as sea-water contains, as Leibig states, many very fertilizing qualities, this mud which perhaps has been accumulating for ages, must have imbibed a large quantity of all those properties, of which sea-water is composed. By answering these questions you will greatly oblige one of your subscribers.

R. B. C.

For an answer to the above see page 322.

The following communication was read before the New York Farmers' Club by the Hon. Henry Meigs at its meeting August 29, and is obligingly furnished us for publication.

For the American Agriculturist.

FARM OF HUGH MAXWELL, Esq.

GOOD EFFECTS OF MARL.—In a conversation with Hugh Maxwell, Esq., some short time since, he stated some facts in relation to the fertilising power of a red marl abundantly existing at Nyack, which induced me to visit the spot. I found Mr. Maxwell's farm of 110 acres bounded by the Hudson, well worth a visit. The whole was in excellent fence, made of the loose stones found on the land, neatly piled about 4½ feet high, forming fields of from 4 to 8 acres. The formation of these fences has used nearly all the stones which were on the surface of the lands. And in this it would seem as if Divine Providence had caused the rocks to be distributed of the proper size for fencing. Had the pieces been much larger or smaller they would not have answered the purpose so well as they now do. If they had been planted two feet under ground, or had been piled in larger masses, the labor of fencing would have been very greatly increased.

This farm, as well as all those about Nyack, lies on the singular mass of sandstone included by a front of about five miles on the river. All the surrounding rocks are of other materials. This sandstone, when quarried, exhibits strata of a kind of red marl of many feet in thickness, lying between strata of the sandstone. The quarry-men throw it out of their way, and millions of loads are lying near the water's edge, so that in many places vessels can lie alongside a bed of it, and slide it on board. On Mr. Maxwell's farm, the former proprietor, desirous of making extensive hard walks through his garden, caused this marl to be put upon them about one foot deep. Soon after this was finished, the walks began to produce clover; the white in such profusion and persevering succession, that all prospect of using the paths in that condition was abandoned: they could not be kept in order by the hoe. Mr. Maxwell being strongly impressed by this occurrence, determined on applying it to the surface of his farm. I saw a field of corn of several acres which had been top-dressed this year with the red marl, now

bearing not less than 80 bushels of shelled corn to the acre—as great a product as is obtained from the best city manure, costing at Nyack nearly 37 cents per load. I saw an upland field of wheat, on which, as an experiment, Mr. Maxwell had top-dressed with this marl a space of three rods by two, from which I pulled an average bunch of straw-stubble, that is more than double the size and weight of any like parcel of stubble, to be found in the whole field of several acres. Unfortunately the husbandman had cradled all the wheat indiscriminately, which prevented Mr. Maxwell from examining the separate product of the wheat. I should not hesitate to pronounce it a double product. Mr. M. top-dressed a field of oats with this marl, and the yield was 70 bushels per acre. He top-dressed a field of clover with it the third year from the seeding, and the product is heavier than the crop of the *second year*. This field was dressed with ten loads of marl per acre. The corn is large 12-row yellow, and the stalks are about 10 feet high. The corn-blades never curled during the late drought, while other fields all curled. The corn was worked with the hand-harrow once, with the cultivator twice, and was hoed twice. No plowing between the hills. Mr. M. thinks that in dry weather it is very injurious to run the plow through, for it cuts the smaller roots of the corn. He has tried 25 bushels of hickory ashes, against 25 of anthracite coal ashes, and found no perceptible difference in the result.

The general effect of this red marl is perceptible in almost every plant and tree in that vicinity. Fruit-trees are especially vigorous and free from disease. Flowering shrubs, roses particularly, seem not to have been touched by any insect. I pulled up a mullein stalk growing on a naked mound of this marl, which measures nine feet in height, and the flower stem, which is covered with buds, is four feet in extent. The trees, excepting peach alone, are more thriving than those I have anywhere seen. The peach-trees have the yellows. Moss roses growing in rich grass are remarkably strong; Mr. M. finds that they do better closely surrounded by grass than in clear ground. He has ten kinds of healthy cherry-trees, including the red and white ox-heart, and the bull's eye. He has freely given, and wishes to distribute buds and grafts to all those who ask for them. Mr. M. has very healthy apricots, which have yielded fine fruit. *He smoked the blossoms with sulphur and pitch, and all the fruit was perfect. This smoking was done in the evening.*

Some of the fields had never been but partially cultivated, on account of being so swamped that cattle mired in them. He made in one four-acre field a drain ten rods long, and three feet deep, filled in with coarse stone. This drain formed a *perpetual spring for his cattle*, and this barren field has now buckwheat of at least *thirty bushels per acre*. *One and a half bushels of seed was sowed per acre*. No manure needed. This drain cost \$1.75. Twelve acres were drained in the same style at a cost of \$150; this field is now fine, and asks for no manure from New York, or Nyack marl. He prefers the same amount of

marl to best New York city manure for all grains and grapes.

Mr. M. has the old English yew thriving in open air in winter. The European mountain ash, white and red linden, red maple, weeping ash, weeping beech, weeping elm, Madeira nut, (one five years old bearing fruit,) Spanish chestnut now in fruit, (this tree has also some blossoms on it at this time.) Apricots grafted on plum stock are very thrifty.

A REMARKABLE HORSE.—In passing through Mr. Maxwell's barn-yard, I noticed a couple of horses, one of which was hopped with a strong iron chain. What mischievous young horse have you there? He replied, it is my old family mare Kate, who has carried me, and my wife and children, safely for the last one and twenty years! I bought her when she was about four years old, but she will break fences now (wooden ones) with her irons on, she is so active and cunning.

LOCUST EGGS.—I remarked at Nyack the work of the locust, and Mr. M. and Thomas Addis Emmet, Esq., examined with a good microscope, a twig worked by the little insect. The twig being split in the line of the work, exhibited the whole process of the egg deposite. The twig is pierced nearly to its centre at every three quarters of an inch, or nearly so; the wood is rendered fibrous, it is then lifted up, and the eggs, which are of a long, oval form, are deposited side by side at an angle of about 45 degrees to the grain of the twig, and the fibrous tuft of wood placed over them, with its end sticking out; these incisions being repeated every inch on a line for some few inches in each twig. With the microscope, we saw the eyes of the young locusts always heads to the centre. The general outline of the young animal was perceptible through its delicate membranous cover. They moved slightly on being disturbed. Almost every twig so operated on by the locust was entirely dead. The magnifying power of the microscope was perhaps 40 or 50.

VALUE OF AN ORCHARD.—I visited an apple orchard at Nyack, which arrested my attention by its regular and healthy appearance. I found young Van Houton at home, who, with perfect good feeling and true politeness, gave me the account of the orchard which I desired. When his father was about fifty years of age, he undertook to plant 150 winter pippin-trees on that spot. His neighbors thought him an old fool to plant twigs of apple at his time of day. Young Van Houton, then about 16 years of age, held the little nurslings in the holes while his father filled in the soil. The old gentleman continued to prune them, so that they are widely branched and open for air and sun within the mass of branches. For twenty or twenty-two years past, the old gentleman has often received \$1,000 a year for his apples. Sometimes \$6 per barrel; sometimes sold in the orchard for \$1 per barrel. That old gentleman and his wife are now, between them, 174 years old. Let no man be afraid to plant winter pippins because he is fifty or sixty years of age.

I have been highly pleased with my excursion. When gentlemen of high rank in learned professions are found turning that intellectual force

which has influenced the most wealthy and intelligent portion of mankind, from law, politics, &c., to that greatest, best of all arts—agriculture, I look for good results and I find them. The old world is hard at work in this direction, and I hope that we shall watch her operations with the eye of our own bird, and see to it, that we be not excelled in any good thing.

For the American Agriculturist.

MEDITERRANEAN WHEAT.

Wheatland, Va., November 2, 1843.

I have noticed your remarks in the October No. of your paper, on the Mediterranean wheat. Your views coincided with mine when I first sowed this variety of wheat; but I have sown it now for two seasons, and the change has been so great in the color, as to convince me that by cultivating it here, it will lose its dark color, and become as good in that respect, and yield as much flour as any wheat we have. The two seasons I have raised it, it has been the best wheat I had. I have doubts whether it will tiller as much as some other varieties, and therefore sow it much thicker.

ROBERT L. WRIGHT.

For the American Agriculturist.

TOPPING COTTON—MARL.

Sumpter District, S. C., Nov. 4th, 1843.

IN those excellent matter-of-fact articles on the cultivation of cotton, which have appeared in the late numbers of your paper, by Dr. Philips of Miss., and which, by the way, are the best I have ever seen on the subject, I do not recollect that he has touched upon the subject of topping cotton. I have made one experiment in this, and was pleased with the result. Some planters north of us, I understand, have also tried this method, and find the cotton is not so apt to shed, as when it is not topped, especially in wet seasons. Ordinarily we reckon the first week in August the best time for topping; but this, of course, will depend upon the season, and the forwardness of the crop—for sometimes it must be earlier, and sometimes later.

I tried the effects of what I suppose to be marl, on a small spot in one of my fields, say about one acre. The marl I judge to be of poor quality, yet can not say, positively, as I have no analysis of it. I dug it out in January last, and spread it broadcast, at the rate of 30 loads to the acre, as large as an ordinary pair of mules would carry. It seemed to pulverize well, exposed to the severe frost of last winter, and I plowed it in deeper than I usually plow, and harrowed the land well. The result is, I shall get full one third if not one half more cotton off of this piece than any other part of the field, which more than pays me for the trouble.

I need not say that we read the articles on manures in the *Agriculturist* with much interest; for many of us are beginning to learn that it is not only easier and better, but even *cheaper* to renovate our old lands, than emigrate to a new country and bring new lands into cultivation. C. McD.

For the American Agriculturist.

HINTS ON THE CULTIVATION OF WHEAT.

Buffalo, October 25th, 1843.

THERE are four conditions that modify the value of a wheat crop. One may not only be larger in measure than another, but heavier for the same measure; yielding more flour from a given weight; and lastly, affording a greater proportion of gluten from the same quantity of flour. It is necessary for the farmer to have each of these considerations in view, if he would attain the utmost success in the cultivation of this invaluable grain. My object, in this brief article, will be, to afford some helps to the agriculturist in increasing the ultimate value of his crop. As a starting point, it will, perhaps, be most instructive to inquire, what are the constituent elements of wheat?

Sprengel has analyzed both grain and straw, and the following is the result:—1000 lbs. of wheat afford 11·77 lbs. and of wheat straw, 35·18 lbs. of ash, consisting of

	Grain of wheat.	Straw of wheat.
Potash.....	2·25 lbs.	0·20 lbs.
Soda.....	2·40	·29
Lime.....	·96	2·40
Magnesia.....	·90	·32
Alumina with a trace of iron.....	·26	·90
Silica.....	4·00	28·70
Sulphuric acid.....	·50	·37
Phosphoric acid.....	·40	1·70
Chlorine.....	·10	0·30
	11·77	35·18

This analysis shows an amount of ash far below the average. Davy found 15·5 lbs. of ash in 100 lbs. of ripe wheat straw; and Johnstone, in one variety, grown on a soil abounding in limestone, 16·5 per cent. of ash.

Thus it will be seen, according to the above analysis of Sprengel, that of the total of grain, less than $1\frac{1}{2}$ per cent., and of straw, rather more than $3\frac{1}{2}$ per cent. is earthy or inorganic matter; while all the remainder is composed of the organic materials, carbon, oxygen, hydrogen, and nitrogen, of which carbon alone constitutes about one half. All these constituents are absolutely essential to the perfection of the crop. In the natural condition of a fertile soil when first reclaimed, these materials are usually found in sufficient abundance to produce wheat. Such was the condition of nearly all the land in New England, and the eastern portion of our own state; but a few years of careless, unscientific cropping, has exhausted one or more of those constituents which may have existed in an available form; and much of it, after a very few of the first years of its cultivation, has been of little or no value for wheat, under the system of tillage there adopted. It has been asserted by Dr. Dana, that in a soil purely granitic (and much of the land in that region partakes of this character), there is potash enough for successive crops of wheat for 3,000 years, and lime enough to last more than twice that period. But the result is the same for the growing vegetation, whether the materials do not exist at all, or are

locked up beyond the reach of it. It is absolutely certain, if wheat will not grow with care and industry, and all the usual appliances of good husbandry, where it once flourished successfully, there is one or more ingredients wanted, in such a condition, that the plants can appropriate them to their own nourishment. And first of the inorganic matters.

The proportion of straw will vary from 2 to $3\frac{1}{2}$ times the weight of the grain. Suppose the quantity taken off the land be estimated at $2\frac{1}{2}$ times the weight of the grain. In a series of crops averaging 20 bushels of wheat per acre, for 30 years, we shall have as the result 36,000 lbs. of grain, and 90,000 lbs. of straw carried off the soil, charged with all the materials above enumerated, and probably sufficient to reduce the land to a very small capacity for production.

Some limited portions of the earth, as the plains of Babylon, when under skilful cultivation, the valleys of the Indus and the Nile, and the fields of Sicily, almost since the days of the flood, have produced luxuriantly, without the aid of manure to any extent; but it must be remembered the former have their fertility annually renewed by the rich overflowings of the rivers, which are charged with all the materials necessary to restore exhausted nature; while the soil of the last, being wholly of basaltic origin, is rich in the alkalis, which a year or two of rest, is sufficient to replenish in a soluble state, to be again taken up by the luxuriant crop. Hence, we have witnessed a drainage of nearly all the products from these fertile regions, for thousands of years, with impunity. But they are exceptions which only go to prove the general rule. The farmer must look to it, that all the ingredients that enter into his crops, are supplied by the materials in his soil, or a deficiency, or entire failure, will be the inevitable result.

Although all the constituents entering into the straw and grain, are absolutely essential to their perfection, they are not all equally essential to be contained in the soil. It is indispensable, however, that the earthy or inorganic portion of them be there, for these can not be obtained elsewhere. How shall they be best supplied? Ashes, it is believed, afford the cheapest, as well as one of the most effectual applications that can be made for grain. Of the ten fixed ingredients enumerated as entering into wheat, ashes yield potash, soda, lime, magnesia, sulphuric and phosphoric acids, in large proportions, and silica and iron in smaller. The chemical operation of the potash, and carbonate and sulphate of lime, however, when added to the soil, is to supply the silica, in a soluble state, from its natural condition, (it being found in abundance for this object in every soil, except in such as are formed almost exclusively of peat,) for the demands of the crop.

An increased supply of lime and gypsum, beyond what is found in the ashes, is frequently advantageous; and when the latter is beneficial, as it generally is, it should never be withheld to an extent in the highest degree useful. Of the operation of this last material, beyond yielding a portion of its sulphur to the gluten, we have as yet no satisfactory explanation. In respect to

the theory of its concentrating ammonia in the soil from the atmosphere, we have very contradictory authority. Liebig asserts it, Johnstone questions it, and Dana denies it; yet the increasing fertility its application produces, would seem to give the weight of experience in favor of Liebig's views.

The chlorine and soda, if not furnished by the ashes in proportions sufficiently large, may be procured by the application of common salt, which yields both. The phosphoric acid may be obtained in any required quantity, by the addition of bones, which, dry or calcined, yield both that acid and lime, phosphate of lime constituting 86 per cent. of bones. Most soils contain alumina in abundance to furnish the food requisite for wheat; yet as it is one of the most valuable soils for this grain, both as seizing upon and retaining ammonia, and furnishing a firm foothold for the roots of the plants, it is important that lands intended for this purpose, should be adequately supplied with alumina as a top-dressing, if naturally deficient in it.

We have, then, above, all the inorganic materials for the purpose required. But there is about 97 per cent. of the crop yet to be made up of the organic constituents, carbon, oxygen, nitrogen, and hydrogen. How shall they be provided for?

First, by the selection of a calcareous or clay soil, which will furnish a proper bed for the roots of the plant, and by their peculiar mechanical texture and chemical composition, will not only hold the manures incorporated with them, but also draw some of the requisite constituents largely from the air; the former absorbing carbonic acid, and the latter ammonia.

Second, by the liberal application of common farm-yard manure, to a crop preceding that of wheat, which will leave a rich mould highly conducive to an abundant yield of perfect grain. An instance has been recently given, of a Maryland farmer raising large successive crops of wheat, by the application of putrescent manure directly upon the grain, and all injurious effects were obviated by the use of a moderate quantity of lime. This is a practice, however, which has not been found generally to be successful, causing either blight, or such rapid and luxuriant growth, as to crinkle and lodge. This effect is also produced in peaty and rich alluvial soils, where the silicate of potash, so essential to the formation of a strong, upright stalk, is not furnished in a quantity large enough for the object.

Third, the liberal use of charcoal scattered through the soil. It is claimed from its use, that the wheat crop of France has been largely augmented within the few past years. Several instances of its greatly beneficial effects, have been noticed in this country; though its influence has not hitherto been felt on wheat, by an extensive Virginia planter, in two or three recent experiments. The great power of condensing gases peculiar to charcoal, was noticed by some of the early chemists. Murray mentions it, and Saussure gives a table of results, in which he shows that perfectly dry charcoal from boxwood, will absorb 90 volumes of ammonia; 85 of muriatic acid; 65 of sulphurous acid; 55 of sulphuretted hydrogen; 35 of carbonic

acid, &c. This condensation takes place in its pores, and does not produce any alteration, or new chemical compounds of the gases thus stored up; but their use in an agricultural point of view, is invaluable; for while the coal yields no fertilizing matter from its own substance, being nearly indestructible, it takes from the atmosphere in great abundance, and hoards up for the future use of the plants, one of the most evanescent, as well as most useful materials for their perfection, viz., the nitrogen contained in the ammonia.

A fourth means for procuring a good yield of wheat, is by alternating with clover, and turning in a liberal share of it as a preparation for the wheat. This is practised extensively throughout the wheat districts of the United States, and has resulted in great benefit; for besides yielding a portion of food to the grain, it keeps the ground in the best possible mechanical condition.

A fifth means, is to return all the straw and chaff to the soil, as they contain a large quantity of the identical materials required for a succeeding crop.

With the foregoing causes in full action, and an adequate supply of moisture, whether from rains, dews, or artificial irrigation, the crop will draw largely from the atmosphere for the supply of its required organic constituents. Carbon will be furnished from its carbonic acid; nitrogen from its ammonia; hydrogen from its vapor, dews, and ammonia; and oxygen from air, water, and soil.

The use of all these materials, *together with the selection of the best varieties of seed*, will give the first three requisites of a wheat crop; large measure, heavy weight, and much flour.

Manures peculiarly adapted to the object, will tend in the highest degree to produce the greatest quantity of *gluten*, the most valuable portion of the flour. It is true, that climate has much to do in condensing, and of course, improving the value of wheat. It is a general principle, that the warmer and drier the climate where it is grown, the more valuable the grain. Wheat from the south of Europe, is worth more than when grown in the north; and that from any portion of the United States, owing to our superior dryness of climate, is more nutritive than what is produced in Great Britain. This difference is increased from 8 to 14 per cent. in favor of the American. Gluten varies in wheat from 8 to 35 per cent.; in rye, 9 to 13; barley, 3 to 6; and oats 2 to 5. The *quality* of wheat with regard to the quantity of gluten it contains, is nicely estimated and fully regarded by accomplished bakers.

The nitrates of potash, or soda, are frequently used in England to increase not only the quantity, but especially the quality of their flour, a practice the high prices of land and produce may render profitable there, though it is hardly to be expected they could generally be used in this country to a profit. In an experiment lately tried in England, one acre of wheat dressed with one cwt. of nitrate of soda, gave 42½ bushels, weighing 60½ lbs. per bushel; another acre dressed with two cwt. yielded 47½ bushels, weighing 60½ lbs.; while an undressed acre, in every other respect similar to the others, yielded only 27½ bushels, weighing 61 lb

Numerous other instances could be given equally conclusive.

Although we may not be justified in using these somewhat expensive salts, so highly charged with nitrogen, there are sources of supply within our reach, especially rich in this material, and abounding in many of the other ingredients of fertility. These are animal manures of all kinds, but more particularly urine, human excrements, and the offal of animals, such as uncalcined bones, horns, hair, hides, flesh, blood, &c. All of these contain large proportions of nitrogen, and if carefully incorporated into the soil, would tend largely to the increased production and value of the wheat crops throughout the country. An experiment was made in manuring wheat with cow dung, which contains the smallest proportion of nitrogen, and this yielded 11.95 per cent. of gluten. Another parcel, grown on land manured with human urine, gave 35.1 per cent. Thus it will be seen, that the maximum of value in wheat, may be reached, by the application of an article, almost everywhere wasted in the United States.

It is by skilfully feeding the wheat plant with all the nourishment that it can take up, that the crops may be indefinitely increased. Lord Hardwicke stated, in a speech before the Royal Ag. Soc. of England, that the fine Suffolk wheat had produced 76 bushels per acre; and another and more improved variety had yielded the astonishing quantity, of 82 bushels per acre. There is no comparison between the capacity of an animal and seeds, to produce results; for while the former is limited to a definite growth, which no effort of science or skill can augment, a seed may multiply beyond almost any assignable limit. We have been shown a stool of wheat, originating from a single seed, the growth of the present season, with 30 stalks, averaging from 100 to 110 grains on each head. Over 3,000 perfect grains, is thus the product of a single parent in one season. It requires, then, but the proper pabulum to produce good wheat, within the wheat latitudes, in every portion of the Union. Some of our worn-out eastern lands may be so totally unsuited to its growth, as not to justify the efforts of reclaiming or fitting them for this object, especially, while we have a region in the west, every way adapted by nature, to its most successful cultivation. But we can not for a moment doubt, that when those western fields become comparatively full, industry and science will combine to clothe again those hills and valleys (now but partially robed with a scanty herbage), with teeming crops of wheat, such as gave to them, in their pristine days, a fame for fertility seldom exceeded.

R. L. ALLEN.

For the American Agriculturist.

A PENNSYLVANIA DAIRY.

Philadelphia, Nov. 6th, 1843.

NOTICING in your October number an account of a dairy on Long Island, I am induced to give you a description of one in this vicinity. Mr. Henry Charley has a dairy farm near Laurel Hill, where he keeps from 40 to 50 cows, consisting of Ayr-

shire, Holderness, Alderny, Durham, and a few natives; but mostly crossed with a fine, thoroughbred Short-Horn bull, and is raising full bloods, and high grades of this breed as fast as possible. He makes veal of his bull-calves, and raises all his best heifer-calves from his best cows for his own use. I found the cows luxuriating in a rich clover pasture when I visited them last summer between 2 and 3 o'clock, the hour for afternoon milking, from which they were taken by the herdsman, and driven half a mile to the barn. This is a stone building 100 feet long, 46 feet wide, with a wing of 60 feet, the same width as the barn, high walls, and steep roof, which make it capable of holding a great quantity of fodder, consisting last year mostly of cornstalks, (some of which he bought very cheap of his neighbors, while others let theirs stand in the field and this spring raked them up and burned them,) rye straw, and oats unthrashed, all of which he cuts and steams—sometimes with a little hay cut also and mixed with the above articles. These are all steamed together, or each separately, (as best suits the appetites of the cows) in a large vat, connected with a pipe through which the steam passes from the boiler, which stands in a room adjoining with stone or ground floor. The chimney is of sheet-iron running up through the roof, and coal used for fuel, renders the risk for insurance at a very low rate. The water is supplied from a spring running into the yard, and thence through a pipe into the boiler. The cows are also watered from the same when the weather is stormy in winter, and they are not allowed to go out. But to return from this digression. After the fodder is sufficiently cooked, which takes but a short time, it is taken out into other larger vats or troughs, with scoop shovels, and there left to cool; then a suitable portion of Indian meal or ground rye, buck-wheat, or oats, or any two or all four mixed and ground together, (which in my opinion would be better,) adding a portion of ship-stuffs, shorts, or even bran. This is the food for the cows at all seasons, except when there is a full supply of grass. They are driven to a woods pasture for exercise and air when there is little or no grass. Air and exercise are indispensably necessary for the health of cows, and without these, the milk will always be more or less unhealthy, according to the nature of their confinement.

When the cows were brought into the yard, I was puzzled to know how they were to be handled; but the stable doors being thrown open, each cow entered the door nearest her stall, and went to it with as much regularity as a young miss goes to her seat in a boarding-school. There is a drop in the floor immediately behind the cows, 14 inches wide and 4 inches deep; into this all the excrements fall, the water running off immediately to a reservoir prepared for the purpose of receiving it; this, together with all the manure, was taken away daily, and put upon the land or crops or in a heap to make compost; so that the premises were kept perfectly clean and sweet. The floor was covered with a thin bed of cut straw, which was passed off with the manure as it became soiled, and by being cut, worked immediately into and in-

corporated itself with the manure, without vexing the husbandman or gardener as long green manure so frequently does. The floor behind the cows, between the trough to catch the liquid and the wall, is six feet wide, with strong plank platforms or tables on which to set the vessels containing the milk. There is an open space directly over the vat for steaming, where all the feed is cut and passed down through a hopper into the vat; also, hoppers or spouts leading from the meal room over head directly into the vats, which contain the steamed feed for cooking. The mangers in which the cows are fed are broad, so that the food may be thrown into them with scoop shovels without waste, of which I found nothing of the kind about the whole premises. If a little too much feed is given to one animal, and consequently left, it is carefully scraped out and fed to one having a better appetite; thus the mangers were kept clean and sweet. Mr. Charley feeds roots, but to what extent I did not learn. I hope he may be induced to write you a letter, giving a description of his cutting machine, which does its work better than any one I have ever seen; having two blades coming together like shears, cutting corn-stalks through their joints with as much apparent ease as a pair of tailor's shears would cut a thread.

There is a stable for dried cows which were feeding for the butcher. Box stalls are provided for cows about to calve; the young cattle are kept by themselves, as are also the calves. Mr. Charley was not at home when I visited his dairy; but this disappointment to me was made up by the kind Mrs. C., who, with justifiable pride, showed me her spring house with its large copper caldron for scalding her milk tubs, pans, pails, churns, &c. &c., in the best of order, all of which she personally superintends and looks after; and whenever there is an overstock of milk for city customers, it is here converted into butter of the choicest quality, and each market-day finds her at her stand with her butter and lots of garden vegetables, the raising of which she also superintends and takes into the city at the dawn of day. That some families are sick and others miserably poor, is not strange, to one who looks behind the curtain and sees what can never otherwise be described. S. A.

For the American Agriculturist.

REPLY TO THE GARDENER'S CHRONICLE.

New-York, 14th November, 1843.

THE Gardeners' Chronicle, published in England, has the following criticism on my essay of dock-mud, inserted in your April number of this year, page 13:—

"We trust the editor is more correct in his other statements than in this, concerning the percentage of sea-salt in guano, which contains little more than a trace of it."

I have never analysed the guano, but depended on one or two analyses given by Professor Johnston, reader of chemistry in the University of Durham, England, in the appendix to his Lectures on Agricultural Chemistry. He gives tables of contents of two parcels, the first containing 30.3 per cent., the second rather more than 11 per cent. of sea-

salt. I took the larger quantity, to prove that if dock-mud contained sea-salt, it could be no objection to it as a fertilizer.

It is highly important that the tables of analysis of celebrated manures should be correctly given, and if the editor of the Chronicle can furnish correct tables, he will be conferring an important boon on the agricultural community of the whole world.

WM. PARTRIDGE.

From the American Agriculturist Almanac.

SOUTHERN CALENDAR FOR DECEMBER.

THE closing month of the year is one in which every agriculturist should take an interest, and for many useful hints we will refer the reader to the Northern Calendar for this month.

Cotton-picking will probably occupy this month until Christmas, when this business will have been completed, if the culture has been well managed, and the season favorable. It would be well to start your plows and break up ground for corn; let nothing but cotton prevent—not even cleaning; for plowing is only one job; yet, if done soon, it is generally advantageous, and if bad weather should set in when it must be done, time will be lost, and a drawback ensue, whereas by plowing in time, cleaning can be done later.

In weather not employed about other labor more important, manure and trim all kinds of vines and fruit-trees, except the orange tribe. Transplant evergreens and other trees, sweet briars, honeysuckles, jasmines, &c.; sow late peas and beans, and set out onions for seed; set all hands at work in cleaning up for other crops, picking up limbs, grubbing, cleaning up hollows, sides of bayous, cutting down corn-stalks with hoes, gathering materials for making manure, &c., &c.

If you do not live in the immediate vicinity, say five or six miles, from a sugar-plantation, by all means keep bees. This can be rendered one of the most productive branches of business of the day. Procure a few swarms at first, and they will soon multiply to any extent required. Use sections of hollow logs, four or five feet long, for hives, if you have no other more convenient materials to make them of, and allow the bees to work over the honey a second time, that you may avoid the injurious effects in eating honey which may have been gathered from poisonous flowers. If the above-named class of hives be used, there will be no necessity for killing the bees; for when the hives are filled with honey, they can be removed without harm from the end opposite to that in which the bees are at work, and they will immediately go to work and fill the vacancy. In most parts of the Southern States bees may be kept at work during the winter. If there are not flowers for them, they can be made to work over the bad honey collected the season before.

This is also a busy month for the sugar-planter. He will be active in cutting and carting his cane with all possible despatch; and he should employ one or more practical and intelligent men to conduct the operations of the mill. In the manufacture of sugar, we know of no better method than that given by Professor Mapes in a letter to Hon. H. L. Ellsworth, from which we make the following extract:—

1. To cut the cane as ripe as possible, but before any acetic acid is formed; litmus paper, touched to the fresh-cut cane, will turn red if acid.

2. Express the juice without loss of time, as every moment after cutting will deteriorate its quality.

3. A small quantity of clear lime-water, say one quart to a hundred gallons of juice, should be added.

the moment it is expressed, unless the juice shows acidity with litmus paper; in that case, no lime should be used, but a solution of sal-soda or soda ash should be added, until it is precisely neutral.

4. When the juice is neutral, free from excess of acid or alkali, it should be evaporated in such an apparatus as would finish its charge in 30 minutes; if the boiling power is too small, good crystallization can not possibly be obtained.

The whole time occupied, from the cutting of the cane to finishing its boiling, should not exceed one hour.

5. To know when the boiling is finished, place a thermometer in the kettle, and continue to evaporate until it stands at 239° Fahrenheit. If, when placed to run off after cooling, it should be found too freely boiled, the next time boil to 240°, or, if too light to run off, to 238°, and so on.

6. The kettle or boiler should be so arranged, that the moment it is done its charge should be thrown into a cooler, capable of holding a number of charges. The first charge should be left in the cooler with stirring, until the second charge is thrown in; then with an oar scrape the crystals found on the side and bottom of the cooler loose, and gently stir the whole mass together: the less stirred the better; so continue at the letting in of each charge, to stir gently; and when all is in the cooler, let the whole stand until it cools down to 175°; then fill out into sugar-moulds of a capacity not less than 14 gallons. When cooled in the mould sufficiently, say fourteen hours, pull the plug out of the bottom of the mould, and insert a sharp point, nearly as large as the hole, some six inches; withdraw the point, and stand the mould on a pot to drip.

7. If the sugar is intended to be brown, leaving it standing on the pot for a sufficient length of time, in a temperature of 80°, will run off its molasses, and leave it in a merchantable shape; it will probably require twenty days. It can then be thrown out of the moulds, and will be fit for use. When moulds can not be obtained, conical vessels of wood or metal, with a hole at the apex, will answer equally well. D.

From the American Agriculturist Almanac.

NORTHERN CALENDAR FOR DECEMBER.

SETTLE all your accounts, collect what is due you, and pay what you owe. "Short settlements make long friends." Examine your farm statistics, and see what have been the results of your experiments with the different kinds of manures, seeds, modes of tillage, &c., &c.; and note them well for future use. No farmer ought to be without such a book, in which all experiments should be carefully recorded at the time, and the results carried into a separate book for his own use hereafter; and if new and valuable discoveries are obtained, communicate them to some agricultural periodical for the benefit of the world. Recollect, you have the experience of thousands to guide your operations, and, by contributing to the general stock whatever may be useful, you are but returning to mankind a part of the benefits you have derived from them. But avoid twaddle and humbuggery, and oft-published statements, and prolix or tedious narration, and give all the circumstances material to the subjects in the briefest, plainest, simplest language possible. Above all things, send in your subscription to one or more valuable agricultural papers, and get as many of your neighbors to subscribe as possible; and consider, in so doing, you are benefiting yourself by it ten times as much as you are the publishers.

Summer is peculiarly the time for making observations and experiments, and winter the time for communicating them. *Remember the poor*, not only in this month, but every month through the year, and especially during the inclemency of winter. You need not give so much to them outright, but endeavor to put them in a way of making themselves comfortable, by affording them employment, by which, you may be benefited, while doing them good. You thus confer on them a triple benefit, by furnishing them the means of comfortable subsistence, teaching them to help themselves, and avoiding the habit of receiving *charity*, which insensibly weakens their sense of self-dependance.

Stock now requires increased attention: they must be well housed, or at least protected against wind, with a shelter to which they can resort in storms, well supplied with salt, and abundance of water, if possible, in the yard, where they can get it when they want, and without wearying themselves in looking for it, and wasting their manure by dropping it in the road, or by a running stream or pond, where it will all be lost. Their feed should be regular, and given to them as near stated times as possible. They look for their food then at certain hours, and are not uneasy and fretful till the customary period arrives, when they again fill themselves, and rest quietly, digesting their food till it is time to look for another supply. If brought up in regular habits, brutes are much better time-keepers than many are disposed to consider them who have not observed closely their intelligence. Now is a good time to break steers and colts, while the roads are smooth and hard. They ought to be early accustomed to handling and the halter, and be gently treated, by which they are more disposed to yield to the wishes of their master. If they have been always used to good treatment, they will acquire a confidence in their keepers, and the more readily submit to their guidance. 'Tis always better to train them with strong, well-broken animals. Sympathy has more to do with the brute creation than they have credit for generally; and the good habits and orderly behavior of the older animals, they have been accustomed to treat with deference, will not be without their wholesome effect on them.

This is the best month for spreading out hemp for dew-rotting, in the latitudes below 40°, as it gets a whiter and better rot than if spread earlier.

KITCHEN-GARDEN.—Every fine day uncover the frames in which are lettuce and cauliflower plants; otherwise they will become spindling, from want of air. Hot-beds can now be made, for forcing asparagus for the table in January. If the ground is open, continue trenching for spring crops. When the ground is frozen, cart manure, repair fences, clean seeds, prepare tools for spring. Provide pea-sticks, bean-poles, &c., and finish all that will be required in the spring, and which can be done when the ground is frozen.

FRUIT-GARDEN AND ORCHARD.—Finish those things which may have been omitted the previous month. If the weather continues open, digging and plowing may be done advantageously. Perform any work that may tend to forward your business in the spring.

FLOWER-GARDEN AND PLEASURE-GROUNDS.—Continue to protect your beds of bulbs, and also flower-beds and shrubs as directed in last month. Should the weather continue open in the early part of this month, bulbs may still be planted. They should not be left as late as this, but if such has been the case, they had better be planted now than left until spring. Now carefully protect seedling bulbs. The more tender kinds of trees can have their roots protected from frost by laying manure or long litter about them.

FOREIGN AGRICULTURAL NEWS.

By the steamship *Caledonia*, we are favored by the receipt of our European journals up to the 4th November.

MARKETS.—*Ashes*, both pots and pearls, have advanced, and were brisk of sale. *Cotton* had declined $\frac{1}{2}$ d. per lb. The recent advices from Bombay and Calcutta of the East India crop, were not quite so favorable. The stock of Cotton on hand at Liverpool on the 1st November, was 720,000 bales, against 520,000 at same period last season. *Flour* was flat, and little doing in it. *Naval Stores*, declining. *Provisions* were about the same as by our last advices, with the exception of Cheese, the finer qualities of which were of quick sale. *Tobacco*, steady and firm.

Money still plenty, and the low rates of interest prevail.

American Stocks continue nearly the same as at our last. Very few recent transactions.

Agricultural School.—We see by the Berwick War-der, that an Agricultural School is established in Aberdeenshire, by the practical farmers of that county, which promises to be a very useful institution. It is superintended by Mr. R. O. Young, and we like its arrangements better than anything of the kind we have yet seen. To explain these, we make a few quotations from the prospectus.

The young gentlemen who may be intrusted to Mr. Young's charge for the purpose of being instructed in the principles and practice of Scottish agriculture, will have daily opportunities of witnessing the regular routine of farming operations going on at the farm, and of taking an active part in these operations.

They will be required to keep, in a farm-book, a daily record of what has been done on the farm. Explanations will be given of the principles upon which the different operations are conducted, and upon which they will be examined at stated times. Regular minutes will be kept by the pupils of all such explanations, as well as of any facts that may come to their knowledge through their occasional intercourse with the farmers of the country.

There will be stated times set apart for reading, as text-books, the most approved agricultural works of the day; and on the subjects of their reading Mr. Y. will minutely examine the young gentlemen, and will also require them to write exercises upon given agricultural topics—particularly those that bear on practice.

While it will be Mr. Y.'s care to direct the attention of the pupils to chemistry and geology in their application to practical agriculture, a branch of study until lately very little attended to, he will make arrangements for procuring the services of the professor of agriculture in the University of Aberdeen, for a few weeks every summer, to give lectures and conduct experiments on the analysis of soils, manures, &c.—thus securing to the pupils more than a mere theoretical knowledge of this important branch of agricultural education.

As nothing is so much calculated to impress any subject upon the youthful mind, as to invest it with a *personal interest*, Mr. Y. proposes to devote to the exclusive use of his pupils, a small farm, of about 50 acres in extent, adjoining to his other farm. This small farm contains a variety of soils, upon which experiments of different kinds may be conducted, on a small scale. It will be possessed and managed by the pupils, under Mr. Y.'s direction, and upon certain equitable rules as to each pupil's share of the concern.

Each pupil will be required to keep regular books, exhibiting all disbursements and receipts, and the results of all experiments tried, with every particular connected with such experiments. Each pupil will be required to take his share of management, &c., and the profits of the concern, after paying a certain moderate rent, will, at each term, be divided among the young gentlemen, in proportion to their respective interests. It is conceived that such a plan will have a strong tendency to promote exactness, regularity, and business habits; but, without the consent of their parents or guardians, pupils will not be asked to join in this scheme.

FARMERS' MAGAZINE.—*Meat-Salting Instrument.*—The instrument resembles a common syringe of more than ordinary dimensions, and, although not quite so simple in its construction, it is intended to be used in the same way as the syringe, provided the point or tube be not exposed to the air. The advantages to be derived from the use of the instrument are explained by the fact that a joint of meat may, in the simplest manner, be properly salted in less than ten minutes. The brine is made of the usual ingredients, and after the salt and other substances are completely dissolved, the liquid is poured into the machine, and the nipple or tube (the circumference of which is perforated with three small holes) is inserted into the most solid part of a joint of meat, and the contents are, by a very strong pressure, forced through the fibres until the brine is seen to escape on the surface. For this purpose a smaller quantity of pickle is used than is employed in the ordinary method of curing meat, and the bone (if there be any,) in the centre becomes thoroughly impregnated with the fluid. By the present mode of salting meat, it is a matter of some difficulty to inject the brine into the innermost part of a large joint, whereas by the process which is adopted in the use of Mr. Carson's instrument, the size or substance of the meat presents no additional trouble to the operator.

Prince Albert's Annual Sale of Live Stock.—Since Prince Albert has turned farmer, he has an annual sale of his fat stock, and is said to realize from 50 to 60 per cent. profit on it. The last took place in October, at which time 417 sheep, 55 oxen, and 9 cows and heifers, were disposed of, realising him £1,743, (about \$8,000;) a clever sum for fat sheep and cattle.

Produce of Ewes.—Count de Gourcey states in that part of his Agricultural Tour in Europe, just received, that Mr. Walker, manager of the late Duke of Gordon's estates, in Scotland, informed him that from 200 Leicester ewes, and as many Southdowns, they bring up on an average, 450 lambs. We wish we had possessed this information when writing our notes to Mr. Grove's letter in this paper, as it would have been something of an argument in our favor, regarding the difference of opinion existing between us about the number of lambs bred in the United States.

NEW FARMERS' JOURNAL.—*Exportation of Cattle to Prussia.*—One bull and eight heifers have been recently purchased in England, for the Royal Agricultural Society of Prussia.

NETTING FOR SHEEP-FOLDS.—The fibre of the co-coa-nut is said to make the most durable netting for sheep-folds; it out-wearing several sets of tarred-hemp netting, and is so light, that a herdsman can with ease carry 200 yards of it.

Soiling.—Feeding animals in the summer-season with green food, cut daily, and given them in stalls or yards, is far preferable to grazing—First, because the food is consumed with less waste; secondly, because rest is an equivalent for food. The bodies of animals do not remain stationary, but are constantly

wasting in proportion to the amount of exercise they undergo—hence, while they rove at large, they must receive from time to time new supplies in the shape of food, to make up for this waste, which are not needed when they are at rest, and consequently, by the system of soiling, less food will be required to fatten them. Thirdly, because by soiling there is an increase of valuable manure, which, by the old method of grazing, was nearly altogether lost.

American Provisions.—Within the last few days, 204 boxes of American cheese have been received in Liverpool. Every year the quality of the American cheese improves. Another article, which is arriving in very large quantities, is American lard, which is coming into use for many purposes for which salt and even fresh butter has been employed. Very excellent salted beef has come from the United States in considerable quantities.

Epidemic among Cattle.—This has broken out again in a most virulent shape in the north of England.

JOURNAL OF AGRICULTURE.—*Miller's Safety Reins.*—These consist of gut covered with leather, and are, therefore, proof against fracture; and being round, and of neat light appearance, form a rather ornamental and sporting-like appendage to harness or saddle. They are mounted in this way:—They pass through a hook placed on the head of the harness-bridle, and through a leather loop on the head of the riding-bridle, and come down on each side of the neck. About middle-way down the neck is a coupling with two swivels, which receive the reins from the head, and they then pass through the dees of the harness, and through the turrets of the harness-saddle, and along to the front of the splashboard to a rein-holder, by which they are held always ready for use. The head of the horse and the turrets of the saddle being both higher than the throat, and the coupling being short, and having leave to traverse the reins on each side of the neck, it settles on that part of the throat at which the reins, on being pulled, exert the greatest force, when, the windpipe being forcibly compressed, the horse becomes affected in his respiration, and, therefore, stands still, or slackens his pace for breath, which he immediately obtains on the reins being slackened. Thus, feeling he is mastered, the horse shows no farther inclination to run off again; but in case he should renew symptoms of starting off, a few firm grips of the coupling on the throat will let him feel the futility of his attempts.

In explanation of the origin of the invention, Mr. Miller stated that he was a farmer's son, and that, in his youth, he used to be employed at times to assist in catching horses at grass, by means of surrounding them with a rope, borne by a person at each end of it. He remarked that, in this service, although no restraint was laid upon the horses when the rope rested on their chests, yet, whenever it could be got upon their throats, they instantly stood still and allowed themselves to be taken. The idea which this recollection suggested, of the probable effect of pressure on the throat in stopping a runaway horse, led Mr. Miller to the contrivance of his safety-reins. In his first experiment, the band which connects the reins under the neck was attached to the headstall by hooks and straps; but it has been considered an improvement to allow it to move freely upon the reins, on which it settles in contact with the throat, in a proper position for use when required.

Our communications with Mr. Miller impressed us favorably in regard to his contrivance; but, wishing to see it in practice we availed ourselves of an offer

by him to afford us an opportunity of judging of it in operation. We, accordingly, on a day appointed, accompanied him in a carriage drawn by one horse, for the purpose of trial; and we witnessed as spectators, as well as made ourselves, repeated tests of the reins, with the horse going at a smart canter, both on a level road and on a descent, and we invariably observed that the tightening of the reins caused the horse immediately to stop. No injurious effect seemed to be produced on the horse by the interruption of his respiration. He always appeared to breathe freely, and to be ready to resume his work, as soon as the tension of the reins was relaxed.

Upon the whole, therefore, we consider Mr. Miller's invention to be a neat and simple, as well as, to appearance, an effective contrivance for the accomplishment of its important object, in the prevention of the disastrous accidents which not unfrequently occur from horses running away; and we think it reflects much credit on the ingenuity of its inventor.

GARDENERS' CHRONICLE.—*Rhododendron.*—There is a variety of the *Rhododendron ponticum* growing here, which appears to be different from any of the others. It comes into flower about the same time as the others, but instead of unfolding its blossoms at the same rate as its neighbors, it only opens a few at a time, and continues long in flower. It did not cease flowering this season the whole month of August; consequently was nearly a month longer in bloom than the others. It has a southern exposure, and is sheltered from the north and east.

Blight on Grain from the Barberry.—In the Chronicle of August 19, under the head of "Vulgar Errors," we read as follows: "People still maintain that the barberry blights their grain." This is, nevertheless, a matter deserving attention; for in this, as in many other instances, a popular prejudice has been founded on truth, although the real cause has been often overlooked. Some writers have treated this subject with respect, and among them is Dr. Thornton. The latter says that the "leaves are very subject to the *rubigo*, which will infect the grain in the neighborhood." Here the secret is at once explained, and the aversion of farmers to the barberry-bush at once justified. The vulgar notion is, that the barberry exercises some evil agency upon grain within a certain distance, and accordingly farmers will never suffer it to grow near their fields. They are right as to the effect, but they attribute it to a wrong cause. I have seen some remarkable instances of grain perishing in a semicircle, in front of a barberry-bush, and extending a good way into a field. Any one who has but superficially noticed the barberry, must have observed that the leaves and young shoots of the shrub were covered with a peculiar kind of blight or mildew. Now it is by no means extraordinary that this should be carried by the wind into grain-fields, and infect the grain so as to cause its destruction. This is the true explanation of the mischief caused by the barberry to grain in its neighborhood. [This is the common explanation, but if any one will take the trouble to examine the parasitical plant which attacks the barberry, and that of grain, he will find that they are totally different things. One is the *Æcidium Berberidis*, and the other some species of *Uredo* or *Puccinia*, for it is sometimes one and sometimes the other. We should as soon believe that a hen's egg would be hatched into toads, as that the seed of an *Æcidium* would produce an *Uredo* or *Puccinia*. We are aware of the facts mentioned by Mr. Wighton, for we have seen them ourselves, and they form a curious problem yet to solve.]

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, NOVEMBER 28, 1843.

ASHES, Pots,	per 100 lbs.	\$4 62	to	\$4 68
Pearls,	do.	5 12	"	5 18
BACON SIDES, Smoked,	per lb.	3 1/2	"	4 1/2
In pickle	do.	3	"	4
BALE ROPE	do.	6	"	9
BARK, Quercitron	per ton	23 00	"	24 50
BARLEY	per bush.	52	"	56
BEANS, White	do.	1 12 1/2	"	1 25
BEEF, Mess	per bbl.	6 00	"	7 00
Prime	do.	4 00	"	5 00
Smoked	per lb.	6	"	7 1/2
Rounds, in pickle	do.	4	"	5 1/2
BEEWAX, Am. Yellow	do.	28	"	30
BOLT ROPE	do.	12	"	13
BRISTLES, American	do.	25	"	65
BUTTER, Table	do.	12	"	15
Shipping	do.	6	"	10
CANDLES, Mould, Tallow	do.	9	"	12
Sperm	do.	32	"	38
Stearic	do.	20	"	25
CHEESE	do.	4	"	7
CIDER BRANDY, Eastern	per gal.	35	"	40
Western	do.	28	"	35
CLOVER SEED	per lb.	8 1/2	"	9 1/2
COAL, Anthracite	2000 lbs.	5 00	"	6 00
Sidney and Pictou	per chal.	7 00	"	7 50
CORDAGE, American	per lb.	11	"	12
CORN, Northern	per bush.	56	"	58
Southern	do.	54	"	56
COTTON	per lb.	6	"	11
COTTON BAGGING, Amer. hemp per yard.	do.	16	"	18
American Flax	do.	15	"	16
FEATHERS	per lb.	27	"	31
FLAX, American	do.	8	"	8 1/2
FLAX SEED, rough	per 7 bush.	8 75	"	9 00
clean	do.	—	"	—
FLOUR, Northern and Western	per bbl.	4 56	"	4 75
Fancy	do.	5 50	"	5 62 1/2
Southern	per bbl.	4 50	"	4 75
Richmond City Mills	do.	5 50	"	5 62
Rye	do.	3 00	"	3 12
HAMS, Smoked	per lb.	5	"	7 1/2
Pickled	do.	4	"	5
HAY	per 100 lbs.	40	"	45
HIDES, Dry Southern	per lb.	9	"	11
HEMP, Russia, clean	per ton.	185 00	"	190 00
American, water-rotted	do.	140 00	"	180 00
do dew-rotted	do.	90 00	"	140 00
HOPS	per lb.	6	"	8
HORNS	per 100	1 25	"	5 00
LARD	per lb.	5 1/2	"	7
LEAD	do.	3 1/2	"	4
Sheet and bar	do.	4	"	4 1/2
MEAL, Corn	per bbl.	2 75	"	3 00
Corn	per hhd.	12 50	"	13 00
MOLASSES, New Orleans	per gal.	23	"	25
MUSTARD, American	per lb.	16	"	31
OATS, Northern	per bush.	30	"	32
Southern	do.	26	"	28
OIL, Linseed, American	per gal.	75	"	80
Castor	do.	90	"	1 00
Lard	do.	55	"	65
OIL CAKE	per 100 lbs.	1 00	"	—
PEAS, Field	per bush.	1 25	"	—
PITCH	per bbl.	1 12 1/2	"	1 37
PLASTER OF PARIS	per ton.	2 00	"	2 25
Ground, in bbls	per cwt.	50	"	—
PORK, Mess	per bbl.	10 50	"	11 38
Prime	do.	9 25	"	10 12
RICE	per 100 lbs.	2 75	"	3 12
ROBIN	per bbl.	65	"	95
RYE	per bush.	65	"	66
SALT	per sack	1 35	"	1 50
SHOULDERS, Smoked	per lb.	3	"	4 1/2
Pickled	do.	3	"	4
SPIRITS TURPENTINE, Southern	per gal.	38	"	40
SUGAR, New Orleans	per lb.	6	"	7 1/2
SUMAC, American	per ton	25 00	"	27 50
TALLOW	per lb.	7	"	7 1/2
TAR	per bbl.	1 25	"	1 50
TIMOTHY SEED	per 7 bush.	13 00	"	14 00
TOBACCO	per lb.	3	"	6 1/2
TURPENTINE	per bbl.	2 62	"	2 87
WHEAT, Western	per bush.	1 00	"	1 05
Southern	do.	90	"	1 00
WHISKEY, American	per gal.	23	"	25
WOOL, Saxony	per lb.	35	"	50
Merino	do.	30	"	35
Half-blood	do.	25	"	27
Common	do.	18	"	22

New York Cattle Market—November 27.

At market, 1,150 beef Cattle, (110 from the south), 35 Cows and Calves, and 2,350 Sheep and Lambs.

PRICES.—Beef Cattle have slightly improved, and we quote \$4.25 a \$5 to \$5.25 a \$5.50 for the best. 1,101 unsold.

Cows and Calves.—All taken at \$78 a \$27.

Sheep and Lambs.—Sales of Lambs at \$1 a \$2, and of Sheep at 1.37 1/2 a \$3.50. 100 unsold.

Hay.—Sales at 62 1/2 a 75 cents per cwt.

REMARKS.—Ashes, since the late news from Europe, have been in good request. Candles, especially those made of stearic, are brisk. Cotton. The day after the arrival of the Caledonia with advices of a fall in England, this article receded nearly 1/4 of a cent per lb.; but a brisk demand springing up for export, it has recovered, and is about the same now as before the reception of the late news. We hear nothing particularly new from the south regarding the picking, the weather upon the whole supposed to be more favorable. Export from the United States since 1st September last, 62,450 bales; same time last year, 113,301; same time year before, 99,904. Flour. The continued navigation on the canals, has brought us an unprecedented supply, and a large quantity has gone into store; a good business, however, continues to be done in it. The total arrivals this season have been 1,440,000 brls. Rye-flour is dull. Buckwheat, very scarce and advancing. Cornmeal, dull. Wheat is in good demand, and prices stiff. Rye, declining. Barley, Oats, and Corn, in fair demand. Hemp, dull. Hops, improving. Molasses, not much inquired for. Beef and Pork, quiet, and little doing at present in them. Lard, much wanted. Hogs. Extreme rates now in Cincinnati are from \$2.25 to \$2.75; we are free to repeat, however, that we believe the first quality of hogs will be worth \$3 by Christmas. Rice, of the better qualities, scarce. Seeds, especially Timothy, in good request. Sugar, quite inactive. Tobacco, fine Kentucky, scarce and wanted; stems, none in market. Wool seems to have taken a fresh start again, and prices have an upward tendency.

Stocks. A large business continues to be done in these, and they are still gradually advancing.

Money plenty, and seeking investment at the usual low rates.

Real Estate seems at last to have come into demand, and considerable sales in this species of property have recently taken place at good prices. It must henceforth advance. Our population and wealth have increased in an unprecedented ratio within the past four years, and there is no reason why real estate should remain at its late low prices, and transactions in it any longer stagnant.

Business generally, the past season, has been extremely good; and we do not hesitate to say, few years can show a greater amount of substantial profits. We consider the days of darkness as passed, and we may now look forward to the future with the brightest anticipations.

Packing Pork.—On this subject we quote from the Cincinnati Chronicle of 22d November. For the benefit of our distant readers, who may be disposed to send their orders here for pork, we give below the pork-merchant's prices for packing this season, based upon 60 cents per bushel for Turk-Island salt, 87 1/2 cents for bbls, 28 cents per bushel for Kenhawa fine salt, and 75 cents to \$1.50 per day, for laborers. For receiving, weighing, and cutting the hogs, a block-fee of 5 cents each.

For packing per bbl., including all charges, \$1.60 a \$1.75. For salting 100 lbs. in bulk, including saltpetre for the joints, \$1.62 a \$1.75. Smoking per 1,000 lbs., including washing, \$1.25. Rendering lard, 37 a 50 cents per 100 lbs., which does not include the price of the keg or barrel—2 to 5 cents is also charged on each keg or barrel for nailing the hoops, boring, weighing, and marking. The cooperage is charged at cost.

TO CORRESPONDENTS.—A. B. Your package of Essays is sent to T. C. R. of P., as directed, and we have written you in full in it. The sheep-articles shall be condensed as you suggest, if we can possibly find room, and papers in any event sent to the gentlemen whose names are given. Good South-Downs, or Merinos, can be had from \$10 to \$20 each. It is not worth while to transport lower-priced animals such a distance. For Rambouillets, \$30 to \$50 each. See Mr. Collins' letter, Sept. No., page 166.

Henry A. Field, J. W. Stuart, S. B. Parsons, James Bates, and D. K. Minor, in our next.

ACKNOWLEDGMENT.—From some unknown friend, we have received a tin case containing two fine paintings of cattle, sheep, &c. We should be pleased to know to whom we are indebted for these, for no note accompanied them, and we can hardly guess.

BLACK GALLOWAY CATTLE.

A pure-bred imported cow, and a bull of the Galloway or Kyles breed of Scotch Highland cattle, are for sale in this vicinity. These animals are very fine of their kind, and were chosen from one of the most celebrated breeders of this stock in Scotland. The cow took several prizes at the agricultural shows before being shipped to this country, and gives a superior quality of milk. The bull is quite equal to the cow, and they will be sold at a reasonable price.

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WINTER & Co., Proprietors.

Flushing, Oct. 24th, 1843.

A STOCK MAN WANTED TO GO SOUTH.

A planter, in the state of Georgia, wishes to engage a faithful competent man to take charge of his stock. If he be married, and his wife be a good dairywoman, she will also find employment. The situation is in the interior of the country, and quite healthy. None need apply if above middle age, or who have not had some experience in their business in this country, and can bring the best of references.

Address the Editor of this paper.

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The Subscriber will attend promptly to the execution of all orders for the purchase of stock, agricultural implements, or merchandise of any kind; also the negotiation of loans, sales of lands, payment of taxes, &c. He has been more or less engaged in mercantile pursuits in this city for ten years, and has an extensive acquaintance with moneyed men, and a thorough knowledge of business in general. Cash or produce must invariably be in hand, before orders for purchases can be executed.

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It has just been revised and corrected, containing 900 pages, and executed in superior style. People may be disposed to smile when we tell them that they can save money by purchasing this book, but we think we can satisfy them that such is the fact. In every family more or less is paid yearly for doctor's bills. A child is taken with a fever, or some other complaint, and from ignorance nothing is or can be done effectually to check it. The physician is called, and a large bill is contracted; whereas, had GUNN'S DOMESTIC MEDICINE been on hand, a remedy could easily have been found which would have checked the disease in its first stage, and not only have saved the purse, but perhaps the life.

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None but choice specimens of any of the above stock will be supplied, and at prices corresponding with the times. Address, post paid, as above.

Oct. 12th, 1843.

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